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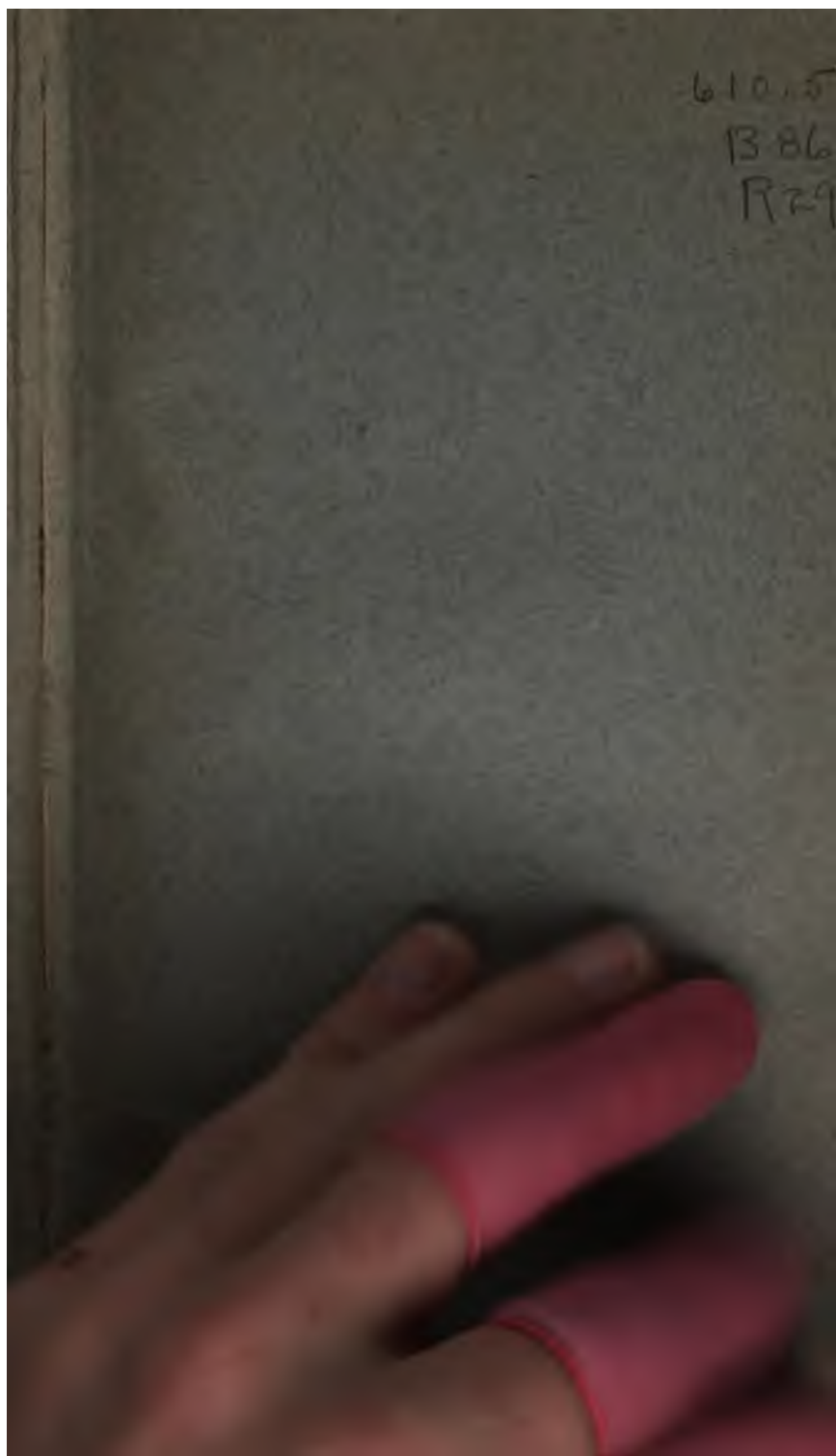


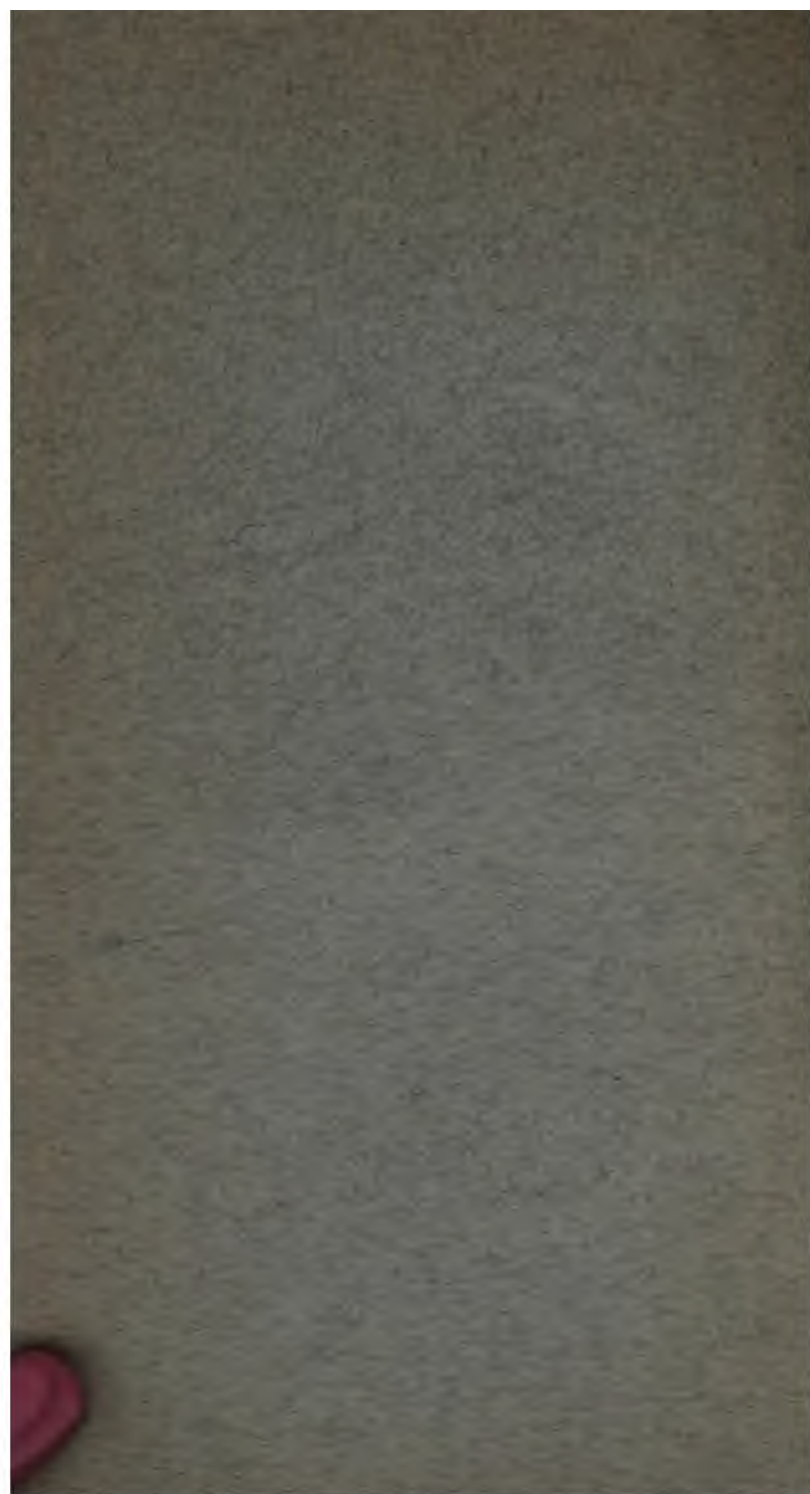


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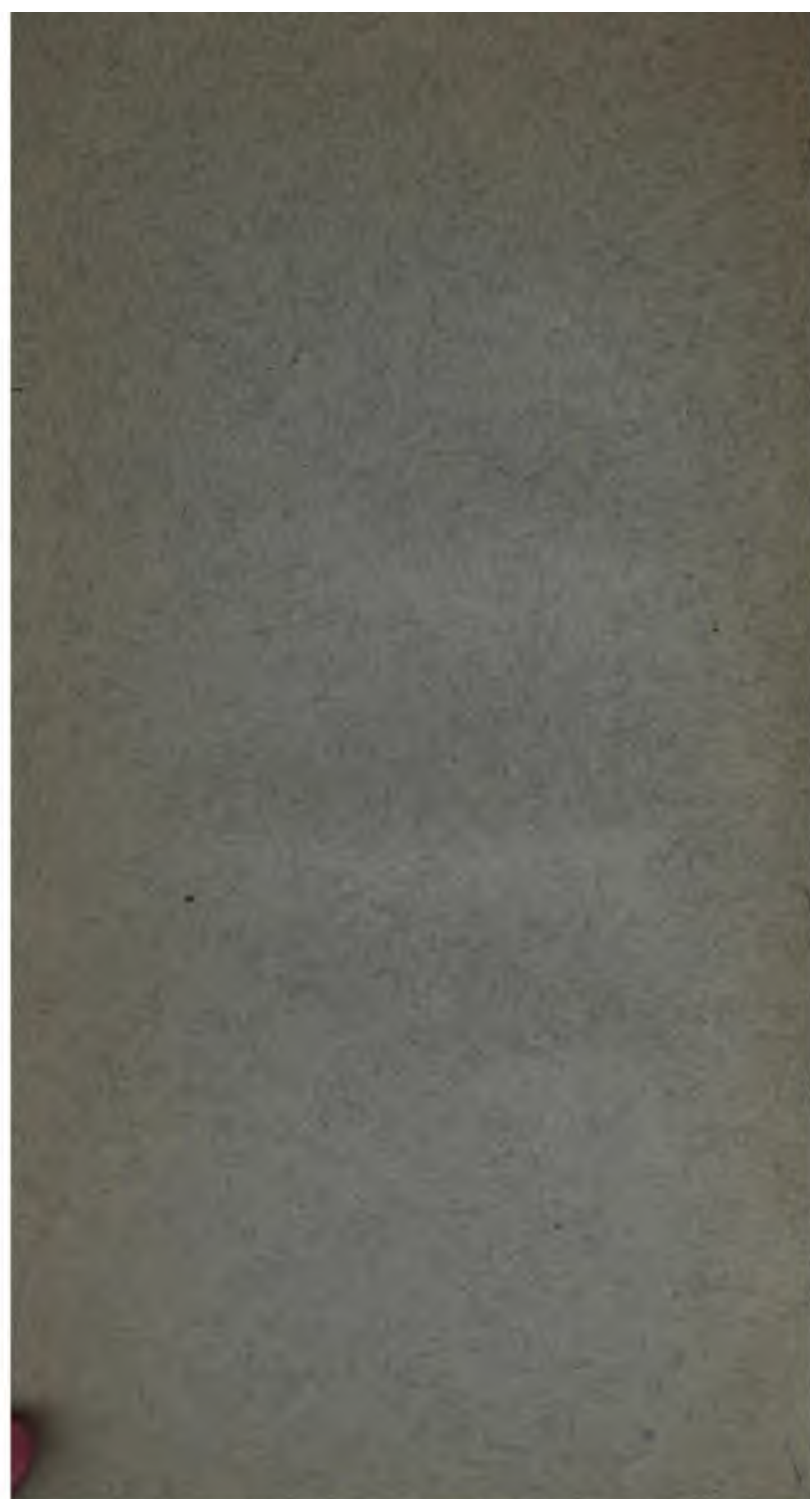
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THE  
**BRITISH RECORD**

OF

**Obstetric Medicine and Surgery,**

FOR 1849:

CONSISTING OF

**ORIGINAL PAPERS ON MIDWIFERY,**

AND THE

**DISEASES OF WOMEN AND CHILDREN,**

BY THE

**MOST EMINENT LIVING PRACTICAL OBSTETRICIANS;**

A COLLECTION OF

**RARE AND VALUABLE MONOGRAPHS**

OF ANCIENT AND MODERN WRITERS;

A

**RETROSPECTIVE DIGEST OF EUROPEAN JOURNALS,**

FOR 1849;

**ENCYCLOPÆDIA OBSTETRICA,**

FROM *Anæmia* TO *Auscultation*, NEARLY 100 ARTICLES.

BY

**CHARLES CLAY, M.D., MANCHESTER,**

*Lieuténant of the Royal College of Physicians, London; Member of the Royal College of Surgeons, etc.; Author of "Peritoneal Sections for Diseased Ovaries," etc., etc., and "Results of Ovariectomy;" Honorary Member Institut. D'Afrique, Paris; Member of the Manchester "Medical," "Pathological," "Ethical," and "Literary and Philosophical," Societies.*

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## PREFACE.

It is with extreme reluctance, and no little regret, that we feel compelled to take leave of our subscribers. We had hoped that a truly practical journal, with the means of reprinting some of the most scarce and valuable works, would have met with a support that would have guaranteed its continuance, but we have found it otherwise. After having sunk a large capital, without any prospect of return, we do not feel justified in injuring our private interests further, although the labour has been one of love and inclination, and the advantages we have enjoyed in extending our acquaintance amongst a number of our supporters, many of them standing in the highest professional position in their several localities: to these we shall ever feel indebted for the many kindnesses received, which will remain indelibly impressed on our mind in future. It has been a pleasure to us to know that our list of subscribers has remained firm to near the same number from the commencement of our labours, and that it includes nearly all the most prominent characters in the obstetric department throughout Europe and America. Still the number has not been sufficient to secure us from loss, or to encourage our proceeding further. Those subscribers who have pre-paid to the end of the second year will have their balances returned to them by post as early as possible.

We have also a large amount owing to us, not only for the present volume, but arrears for the first, which we trust will be forwarded to us without delay, to enable us to close our accounts satisfactorily to ourselves and to our supporters. We have completed in the present number all the Monographs on hand. We have also titled and indexed the work as far as it has progressed, so that it is complete as a work of reference, and may be bound for the library shelf.

We appeal with pride to the list of scarce and valuable works, reprinted as monographs, including the splendid works of Nægele on the Contracted Pelv's, illustrated with eighteen plates; and the



Mechanism of Natural Labour, with the latest observations of the authors. These works alone are worth the whole price of the journal. In addition will be found the truly philosophical works of Ascherson, Fischer, and Dzondi;—the brilliant work on Conception and birth, by Wm. Harvey (Ent's. Ed.);—the Practical Essays of Crantz, Puzos, Newnham, and others, forming a mass of valuable reference matter not to be found elsewhere.

Nor can we take our leave without a word in favour of our specimen of the *Encyclopædia Obstetrica*, the labour of our own hands, (*Letter A of which is now completed.*) We leave our friends to calculate in their own minds the extent and value of such a work, had it met with sufficient encouragement to ensure its completion. We have no hesitation in saying such a work was much wanted, and if it had progressed to completion would have been the most extensive and valuable on record. We regret its discontinuance, and trust we shall not be alone in that feeling.

In a word, we feel we have done our duty in pointing out the kind of journal which we imagined most useful, and though we have failed in eliciting the necessary support to ensure its continuance, we trust we have, by our efforts, convinced the reading and thinking part of our profession of that which is necessary, which, perhaps, may be the means of bringing forth some one more successful as a caterer for public patronage than ourselves, to supply the place from which we reluctantly retire.

With the liveliest feelings of gratitude to our late supporters, we bid them farewell, not without the hope of still cultivating their acquaintance, if not as editor, at least as a promoter and well-wisher to medical science. To the editors of Medical Journals we tender our best thanks for their exchanges and assistance, and we are truly sorry that we shall have no further occasion for the continuance of their journals.

SCARCE MONOGRAPHS.—MODERN SERIES.

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AN INAUGURAL DISSERTATION,

CONTAINING

SOME OBSERVATIONS

ON THE

PELVIS OF THE MAMMALIA,

WHICH, UNDER THE

PRESIDENCY OF J. F. H. AUTENREITH,

PROFESSOR OF ANATOMY AND SURGERY,

WAS OFFERED FOR PUBLIC EXAMINATION

BY JOHN FISCHER,

A CANDIDATE FOR THE DEGREE OF DOCTOR OF MEDICINE,

TUBINGEN, SEPTEMBER, 1798.

MANCHESTER :

PRINTED AND PUBLISHED BY WILLIAM IRWIN

39, OLDHAM-STREET.

1848.

DEDICATION.

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TO THE ILLUSTRIOUS  
FREDERIC ALEXANDER VON HUMBOLDT,

ETC., ETC.

TRANSLATED BY ROBERT KNOX, Esq., M.D., F.R.S.,

EXPRESSLY FOR THE

"BRITISH RECORD OF OBSTETRIC MEDICINE AND SURGERY,"

EDITED BY CHAS. CLAY, M.D., MANCHESTER.

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As the first of our series of Modern Monographs, we offer no apology in presenting to our readers the celebrated Inaugural Dissertation of J. Fischer, on the Pelvis of the Mammalia,—a work of great value, and extreme rarity. In order to give the author's ideas with the greatest possible exactness, we esteem ourselves happy in presenting a translation expressly prepared for the British Record of Obstetric Medicine and Surgery, by ROBERT KNOX, Esq., M.D., F.R.S., &c., &c.; and have no doubt, under his able superintendence, it will form a Monographic gem of the highest interest and value.

CHARLES CLAY, M.D., MANCHESTER.

THE PRESIDENT  
TO THE  
DISTINGUISHED CANDIDATE,

S. P. D.

I return to you, unchanged, the dissertation you presented to me, adding to it but a few observations, expressed in a different type, lest, any thing unpleasant in the annotations might be attributed to you. This academical dissertation is not only highly creditable to your learning, but proves your mind to be untrammelled by the narrow limits of mere practical art and doctrine, and therefore equal to the advancement of science. Permit me, however, merely to remark to you, that you have neglected taking an enlarged view of the whole material collected by you, although individual parts are perfectly illustrated; thus leaving to the reader the troublesome task of discovering the fruit all the more difficult amidst a material by no means trite or common. The following is all which a want of leisure and opportunity permit me to effect towards remedying this difficulty.

There are two circumstances in which the pelvis of the mammalia chiefly differs from the human; first, the symphysis of the pubes is elongated backwards, so that the inferior wall of the smaller or true pelvis, forms a semi-canal, extending much beyond the posterior termination of the bones of the sacrum, and covered superiorly by the moveable and slender coxylgeal bones only. I shall consider a little farther on the value and the importance of this structure in the pelvis of the quadruped, in facilitating the efforts of birth. In this place I shall consider the second peculiarity alluded to above; this has reference to the *ossa ilium*. It is known in man that a small portion of the bone of the ilium extends upwards and backwards, above the level of the base of the sacrum, giving an attachment by its inner surface to the common origin of the long muscles of the trunk; but that on the other hand, the anterior portion of this bone, which is by much the larger portion, is extended by its lateral anterior margin forwards, anterior to the sacrum; covered by the iliac muscle, it supports the intestines firmly with the opposite bone and the basis of the sacrum, the larger or so called upper or false pelvis. The margin or crest of the ilium is angular mesially from the spot where the ligament proceeds from it to the lumbar vertebra. But the superior anterior ligament of the pelvis, which unites this angle of the crest to the transverse process of the fifth lumbar vertebra, and another ligament placed lower down, the anterior inferior ligament of the pelvis, establish the same distinction superiorly between the abdominal anterior portion of the inner surface of the ilium and its posterior dorsal and smaller portion, which lower down the broad symphysis called *sacro-iliac* has constituted. On the other hand, many of the smaller animals want all that abdominal portion

of the os ilium which forms the larger or upper pelvis, but have that portion which towards the back projects beyond the os sacrum, long, although narrower, and more parallel with the os sacrum. This is the reason chiefly why the larger os ilium of the mammalia is so much narrower than the same bone in man, and its crest especially narrow. Hence the greatest distinction arises in the ratio of the muscles of the pelvis and trunk ; for instance, the dorsal muscles are very large in the rabbit, and the quadratus lumborum and psoas muscles of that animal which lie anteriorly on the longest transverse processes. These muscles, on both sides, completely hide the anterior aspect of the bodies of the lumbar vertebræ. There is no iliacus muscle, as there is evidently no room for it ; but the quadratus lumborum being left on the lateral and superior margin of the pelvis, it ascends above that, resting almost on the anterior and lateral margin of the sacrum ; posteriorly it appears to be joined in a manner to the pyriformus muscle of the true pelvis. The abdominal muscles are inserted into the anterior elongated margin of the ilium, Poupart's ligaments being placed more at the side than in man, on account of the very broad symphysis of the bones of the pubes and thigh bones coming out from the sides of the pelvis, and placed chiefly in an oblique position.

On account of the narrowness of the ilium, these ligaments almost touched the inferior insertion of the quadratus lumborum, unless the psoas muscle came between them. All the crest of the ilium rises backwards above the os sacrum in the rabbits, and gives insertion to the dorsal muscles ; hence the false pelvis is evidently wanting in that animal, and only the true pelvis is present. In other mammalia, as in the moles, not even by its margin does the os ilium look towards the cavity of the abdomen, the whole bone being retracted towards the back superiorly ; other quadrupeds, as the horse, &c., at least possess some abdominal portion of the ilium ; others truly, as the elephant, possess a very large portion, and which on this account resemble man ; but I shall treat of these afterwards.

This absence of the false pelvis in most of the smaller animals, and the very narrow os ilium, render the extremity of the body posteriorly so narrow when compared to man, and by denying a broader place of insertion for the gluteal muscles, render the haunches of mammalia very slender. The first cause, in connection with the horizontal position of the trunk, easily explains why hernia, which are of very frequent occurrence in man, are *very rare* among quadruped mammals ; why no congenital hernia can occur in the rabbit, although the processes of peritonæum, which lead the testicle into the scrotum, remain open even in the adult animal, so that the testicles can very easily pass and re-pass from the cavity of the abdomen : why, moreover, herniæ are of more frequent occurrence among those animals which have a certain kind of false pelvis, (as the horse,) which therefore have Poupart's ligaments and the abdominal rings more transverse, and less situated at the side. It happens, indeed, that the thighs are bent towards the abdomen in almost all mammals, and the bony symphysis of the pubes is broader than in man ; therefore, the lowest part of the abdomen is better protected, while the abdominal rings are at a greater distance from each other.

It is here worthy of remark, that the infant in the human race has the

pelvis in reality narrow, as in most quadrupeds; the abdomen elevated, or amalgamated as it were, with the chest, and the umbilical region very broad or ample. In the infant, also, I have found the abdominal portion of the bones of the ilium much less than in the adult, as compared with the dorsal portion, and that the ratio of the length of the dorsal portion to the abdominal, was, in the infant not quite two years old, as ten to eleven, up to fourteen; whilst in the adult the ratio was as eleven to sixteen, up to twenty-two. This narrowness in the pelvis of the infant explains the greater frequency in them of umbilical and inguinal herniæ to crural: as, on the other hand, the breadth of the pelvis in grown women renders easy of explanation their greater liability to crural herniæ (and to herniæ of the foramen ovale!); and, generally, why it happens that herniæ most frequently appear at a time when the osseous pelvis has acquired its full development, than in early years when the pelvis is still narrow. To this observation there is the exception of congenital and umbilical herniæ. The strength of the dorsal muscles in the mammalia, seems to assist the slenderness of the glutei. The more any animal is fitted for leaping, and therefore for a more rapid elevation of the trunk, in it do we find a larger portion of the os ilium surpassing the os sacrum towards the back, and destined for the insertion of the dorsal muscles. I have measured the pelvis of fifteen mammals, in their whole length: then from the summit of the crest of the os ilium, as far as the anterior extremity of the tuberosity of the os ischium; then I multiplied the length of that part of the os ilium (in its longest diameter), which passes beyond the os sacrum, with the breadth of the same part measured in its middle height or depth, and thus discovered the proportion of these numbers. The mole, unable to raise its prostrate body from the ground, has the least space for the insertion of the dorsal muscles; the bat follows it, which cannot raise itself so far on its abdominal extremities as to afford space for the unfolding of its pectoral limbs; the sluggish hedgehog follows the bat; the mouse and weasel the hedgehog; next the rat; then the stoat; the squirrel; the rabbit; then the martin cats; the genus felis (cats) followed the martin, already remarkable for its leaping, and its swiftness of motion; then the short-haired dog; next the fox: the hare already excels the swift fox, living in the open air, and on this head differing most widely from its co-gener, the troglodytic rabbit. It is necessary merely to caution any one about to contemplate this series, that in an absolutely larger animal, the osseous surface for the insertion of the muscles, must not only be absolutely, but relatively larger.

In the skeleton of a certain cercopithecus, with a face resembling the human, but with a very long tail, and measuring, from the vertex to the calcaneum sixteen French inches, I found that portion of the os ilium which projects beyond the level of the sacrum to be very small, although it had not, properly speaking, any abdominal portion. Its place therefore in the series, was between the bat and the hedgehog.

Nor is man himself remarkable for any great strength of the dorsal muscles; whilst resting on all four limbs, he cannot raise the trunk by leaps, unless the knees be first under the abdomen, as in the case of the quadruped. His dorsal muscles seem rather calculated to retain the trunk in its erect position, than at every step to raise again the horizontal, (that is, to raise the trunk

from the horizontal to the erect position, with the same ease as they retain it when erect); the hands seem mainly given to him, as to the simiæ, for assisting in raising the trunk.

The proportion of the numbers obtained by multiplying the length of the dorsal portion of the ilium into the breadth of its middle portion, was to the square of the whole length of the whole pelvis :—In the

Mole,	as 72 to 10,000	Squirrel,	as 383 to 10,000
Bat,	... 124 ...	Rabbit,	... 422 ...
Cercopithecus,	... 149 ...	Martin,	... 467 ...
Hedgehog,	... 179 ...	Cat,	... 538 ...
Mouse,	... 183 ...	Short-haired dog	... 646 ...
Weasel,	... 204 ...	Fox,	... 715 ...
Rat,	... 227 ...	Hare,	... 737 ...
Stoat,	... 309 ...		

I next measured several human pelvis by a straight line, from the anterior superior spine of the crest of the ilium to the angle which this crest makes inwardly in that spot, where, by means of a ligament, it is joined to the transverse process of the last lumbar vertebra; and then leading the string or cord from this angle to the posterior superior tubercle in which the dorsal portion of the crest terminates; by these measurements I found, for the most part, that the dorsal portion was absolutely larger in those pelvis in which the abdominal part was smallest; and, vice versa, the promontory (or rather the last lumbar vertebra) projected more into the cavity of the pelvis the longer the dorsal portion of the crest of the ilium really was. In a female pelvis, for example, the abdominal portion was sixty-seven lines in length, in another only fifty and a third; in the former, the dorsal portion was only twenty-six lines and two-thirds in length; in the latter, it was thirty-two and a half. The length of the whole crest was thus in both nearly the same; for twenty-six and two-thirds added to sixty-one make eighty-seven and two-thirds; and fifty-two and one-third added to thirty-two and a half give nearly eighty-five. The *fossa*, or depression, moreover, between the dorsal portion of the crest of the ilium, and the summits of the spinous processes of the lumbar vertebrae, was less marked in that pelvis in which the dorsal portion was least, and in which the promontory projected less acutely into the cavity of the pelvis; but it was deeper or better marked in that pelvis in which the promontory projected more acutely into the cavity of the pelvis, and in which the dorsal portion was larger. In the former pelvis this *fossa*, or depression, had a depth of nine and one-third lines; in the latter it equalled eleven and a quarter.

These observations seem to me to throw new light on an observation of the distinguished Oslander,\* who observed that “in women who, from their earliest years were accustomed to carry burdens on their backs, the angle which the conjugate diameter of the pelvis makes with the horizon becomes much nearer the perpendicular, than in those accustomed to carry burdens in any other way; and that this greater inclination of the conjugate diameter is a frequent cause of difficult parturition. For not only does this greater obli-

\* Denkwürdigkeiten für die Heilkunde und Geburtshilfe, Zweyter Band; Götting., 1795; p. 340.

quity of the conjugate diameter, arising from the flexion of the loins forward, render parturition more difficult, but the strength, likewise, of the dorsal muscles, increased by exercise, seems to be equal to the drawing backwards the pelvis of a young person of tender years, and of forcing the promontory inwards, and in this way to alter the form of the pelvis, and to render it narrower." At all events, the conjugate diameter of that pelvis whose dorsal portion was the largest, was shorter by six lines than the conjugate of that pelvis in which the dorsal *fossa* (already described) was least. Perhaps it is hurtful, therefore, to women to carry heavy weights on their backs; or even, perhaps, to affect too upright a style of walking, wherein the back and shoulders are drawn backwards, and the os sacrum elevated by the great vigour of the dorsal muscles. The chests of females, also, rendered stiff with whalebone, perhaps injure them in a similar way; nor is it only the narrowing of the pelvis from side to side, or transversely, which ought to be attended to when female clothing is considered, or the application of machines to the body; its impression from before backwards ought also to be attended to.

The dorsal portion of the crest of the ilium seems, for the most part, absolutely larger in men than in women, and the abdominal portion smaller; but the strength of the muscles is greater in man than in woman.

I come now to the next remarkable difference between the pelvis of man and other mammals, namely, the elongation of the symphysis of the pubis, elongated into a semicanal, and to which Daubenton gave a proper name; and to the consideration of the fact of the inferior exit of the pelvis in quadrupeds being directly opposed, or opposite, to the superior entrance or opening. In the erect position, the human os sacrum is again bent forwards, which, from its basis, on account of that very inclination of the superior aperture of the pelvis, is curved backwards; the coccygeal bones follow the forward curve of the os sacrum, and complete it; in this way the pendens of the pelvis is supported, the rectum and the vagina curved forwards, and a security is offered against a prolapse, during any more violent effort. But the inferior aperture of the pelvis would be too much narrowed by this curvature, were the symphysis of the pubis not shortened, so that this shortest anterior wall might be opposite to the longer curved wall; together with this, the plane of the superior aperture of the pelvis in man, is elevated much nearer to the glance of the horizon than in the erect animal. Now the globular form of the fetal head alone enables it to pass through this curved route, which leads outwards around the symphysis of the pubis, as around an axis in the concavity of the sacrum, from the superior or upper pelvis, through the inferior exit; and indeed so only that the short excavation of the *mucha* correspond to the narrow symphysis of the os pubis; and the long convexity of the head, from the chin extending over the face to the vertex, correspond to the long excavation of the pelvis, extending from the promontory to the apex of the coccyx. The promontory which it must be admitted exists in infants, and even in the fetus, though very obtuse and scarcely conspicuous, seems attributable in point at least to the erect position of man, and to the continuous efforts of the dorsal muscles. This promontory, narrowing or diminishing the conjugate diameter, and by its impression, as it would seem, rendering the oblique diameter the larger, forces the head of the child to



enter the excavation of the pelvis obliquely ; and this indeed happens more frequently with the occiput turned towards the left than the right acetabulum, because the uterus in the commencement of pregnancy inclines sensibly more and more towards the right side than the rectum, which is rather placed towards the left side, proved perfectly by the examination of the bodies of female infants. Now it was necessary that the head of the fetus, after it had entered the cavern, or cavity of the true pelvis, should again slightly rotate ; because, as my measurements have at least taught me, the diameter of the smaller pelvis extending from the middle of the os sacrum to the middle length of the symphysis of the pubis, is a little longer than the transverse diameter, measured in the same place ; which is otherwise in the superior aperture of the true pelvis. The dimensions of the child's head beautifully correspond to these diameters, for its transverse diameter through the temples is shorter than its anterior posterior one. The lateral walls also of the true pelvis, and especially the spine of the ischium, if examined carefully, seem so bent that the head of the child may of necessity be moved in the manner just described. The human birth then is accomplished, as all are agreed on, whilst the head of the child is turned in the pelvis by a semigyratation, resembling the whirl of a univalve shell, and so escapes. But since the effort which expels the child acts in a right line, and the immovable walls of the pelvis at last produce these curved lines from a rectilinear motion, it readily appears how much of the propelling force must be lost against the walls by this oblique action, and how, from this cause, the human birth must be difficult ; but this detriment is made up for by the erect stature, the rounded head and larger brain of man, and by his elevated position above the order of mammals.

All these things are quite differently arranged in animals ; it was necessary that by far the greater number of them should walk on four feet, the pelvis, in consequence, by no means supports the intestines ; on the contrary, the bowels descend rather from the pelvis towards the deepest part of the umbilical region, so that, in the smaller animals at least, when they are opened in a supine position, the intestines are never found filling the cavity of the pelvis, as in man, but are found rolled up, and occupying the middle of the abdomen. Hence it happened that the os sacrum might be narrower, and very narrow it is in most of them, and seems to have such a curve with the coccygeal bones as the weight of the tail requires. There is not even so much of a promontory as we find in the human fetus. The head of the fetus also, which in animals is not spherical as in man, but straight and elongated, corresponds to the straight course through the pelvis ; and it easily escapes through it, expeditiously propelled, the propelling forces meeting with no resistance from its walls. In the gravid quadruped the fundus of the uterus inclines downwards by its own weight ; and its orifice looking towards the pelvis, rises somewhat upwards ; but in quadrupeds also, the posterior aperture of the pelvis leads chiefly upwards, and is there covered by a very moveable and narrow sacrum and coccyx, composed of several distinct and separate vertebrae. That the fetus of the lower animals escapes from the pelvis chiefly by the yielding of the bones of the coccyx upwards, also become more moveable at the period of parturition, is known to every country woman, who

foretells the time of parturition in the cow by the greater mobility of the anterior coccygeal vertebrae, though concealed by their intimate relation to the abdomen, and by the elevation of these bones. Harvey already had said in the chapter on the exterior part of the uterus of the fowl, "in animals with tails, the birth cannot take place without the elevation of the tail;" these circumstances, however, in women, merely render the birth easier; but a deficiency in this respect can in no way impede the birth in her. The elongated head of the fetus in the lower mammals, its lengthened form generally, not enclosed in spherical, but in a lengthened cylindrical shaped uterus, seems to be the cause why the smaller pelvis of quadrupeds forms a semi-canal in many species, the symphysis of the pubis being much prolonged, presenting merely a smooth (inconsiderable) incision or fissure between the tuberosities of the bones of the ischium to the chin (bent downwards) of the coming fetus. In the genus *mus* the fetus is gross or thickheaded, and its general form is also less elongated than in some other animals; but in this genus it also happens that the symphysis of the smaller pelvis is very short, and the so called ascending branches of the *os ischium* are in it united at a right angle to the descending branches of the *os pubis*, so that the smaller pelvis looks as if it had been cut across with a knife, and to have attained to only a half of its usual size.

It now remains that I say a few words regarding the narrow and elongated bones of the *ilium*, and which are more nearly parallel to the *os sacrum* in their length than in man, present in those species of animals in which the anterior wall of the pelvis is very short, as in the genus *mus*, hedgehog, etc.; and which are found even in those animals which walk like man, supported on two feet, as in the gigantic *Didelphis*. On the other hand, the elephant has the bones of the *ilium* very short, but very broad, and strongly resembling the human. The elephant and mankind agree not only in this respect, but also in this other circumstance, that the fetus in both has a very large rounded head, in which the jaws are withdrawn as it were beneath the basis of the cranium, an arrangement of structure calculated to influence greatly the form of the uterus, and hence perhaps rendering this form of pelvis necessary; but these two wisest of animals agree also in this, that they both have the thigh bones disengaged or free of the trunk and straight, whilst in most other animals these bones lie hid, as it were, enclosed entirely or partially within the abdominal region, compressed and bent; this happens even in the gigantic *Didelphis*. The bear, in whom the thigh bones are more disengaged from the trunk than in the other *servæ*, has the *os ilium* also broader than they have. The muscles which proceed from the external surface of the *os ilium* to the trochanter major of the femur, would either be too tense (as the remotest portion of the *gluteus maximus*), or would sometimes be too short when contracted, sometimes too long in extension of the thigh (as the *gluteus medius*), if the *os ilium* of animals, broad as in man, should, notwithstanding, coincide with a thigh bone hid as it were in the abdominal region and bent as in them, no alteration having taken place in the insertion of the muscles. But an elongated and narrow *os ilium*, with its abdominal or inferior portion as it were entirely wanting or deficient, does not interfere with this bent position of the thigh bones. Moreover these bent, compressed, very broad, and closely approxi-

mated thighs, as they exist in the lower mammals, support the remote portion of the lower belly, and no less prevent too forcible a protrusion of the intestines against the abdominal walls, than do immoveable bones themselves; so also in man, it is safest when vomiting is about to occur, to bend the thighs towards the abdomen, lest the effort of vomiting should give rise to a hernia, through the abdominal rings or under Poupart's ligament. Hence also it seems ill advised to extend with bandages the thighs of recently born children, in whom the peritoneal processes leading into the scrotum have not yet become contracted or closed. Nature has already taught them at that age to draw the thighs towards the abdomen, and this may be the main prevention against the passage of the intestines, through the abdominal rings, along with the testes in children, whilst enclosed in the uterus. The lower an animal walks with bended thighs, the narrower will be, in that animal, the os ilium, and the more does it seem pressed hard as it were against the sacrum throughout its whole length; so that a series, perhaps uninterrupted, might be formed or admitted, from man, in whom the broadest os ilium comparatively is united with the os sacrum almost at a right angle, to the mole, in which animal an extremely narrow os ilium evidently unites throughout its whole length with the lateral margin of the os sacrum, the great ischiatic notch having entirely disappeared.

I shall here stop, reserving all further observations for the distinct heads of your dissertation, to which they may refer. It remains for me to express hopes for your enjoyment of health; that many may owe their health to you; and that you remain a steady cultivator of the sciences especially requiring support in these times of trouble, commotion, and dreadful wars. Farewell.

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#### FISCHER ON THE PELVIS OF THE MAMMALIA.

*1st—Man.* *Section 1.*—Nature has given to the human race the broadest and most depressed pelvis of any animal, seemingly required by his erect position, and by the size of the head of the fœtus; by the spreading out of the ossa ilium the intestines are supported, and by the capacity of the female pelvis, a ready exit is provided for the fully grown fœtus.

*Section 2.*—The pelvis of other mammals is longer and narrower than the human; and the bones of the ilium scarcely diverge, but ascend almost straight, or parallel.

*Section 3.*—In mankind, the superior aperture of the smaller, or true, pelvis, presents a plane, nearer the horizontal; whilst in other animals, the line drawn from the promontory of the os sacrum to the superior angle of the symphysis of the pubis, called the conjugate diameter, descends more perpendicularly; hence, in mankind, the transverse is larger than the conjugate diameter; in other mammals it is less, with a few exceptions, as in the pelvis of the horse, the buffalo, and the dromedary.

*Section 4.*—The quadrumana most nearly resemble the human structure, and this holds also of the pelvis, and amongst these, chiefly the simia satyrus. The Bellua follow these, chiefly the Elephant, &c.; then the solidungula,

*End of the first part.*

(horses); pecora (cattle, deer, &c.); bradipoda (ant eaters); cheiroptera, (bats). The savage, or flesh-eating animals (carnivora), follow these; and last of all, the rodents. *Note.* The reader is cautioned here, that I adopt the classification of my illustrious teacher, Blumenbach, as contained in his Compendium of Natural History, fifth edition, Gottingen, 1797; and in measuring the pelvis, I have used the Parisian foot.

*2nd—Quadrumana. Section 5.*—The os sacrum is narrower and plainer in all the quadrumana than in mankind. Its external margins do not, as in the latter, converge downwards, but continue parallel with itself. The excavation of the pelvis in the quadrumana is less spherical than in the human race, which seems to be proved by the observations just mentioned; and that apes, so like us in other respects, are ill adapted for the upright position in walking; and that the head of the fœtus of the quadrumana is already more elongated, after the manner of the brute animal, than globose, or rounded, as in *man*. Even in the quadrumana, then, the pelvis has already assumed a character wholly animal. That cercopithecus, mentioned above, shews a sacrum composed of three vertebræ distinctly separated from each other, and evidently resembling those of the loins, and first coccygeal vertebræ, with the exception of the lateral appendages. The os ilium is elongated, its abdominal portion obviously defective, or wanting, unless you feel disposed to take for it the broad anterior margin of the bone. The symphysis of the pubis is elongated, and the tuberosities of the ischion bent outwards, so that the true pelvis already shews that the fully formed semicanal, of which we have taken notice above, and the entire pelvis, already strikingly resembles that of a small carnivorous animal, or of a squirrel. It is worth while recollecting how the mode in this order of animals is changed, as regards the birth of the fœtus, which, in mankind, presents by the occiput; in the mere animal, by the face\*. The spinous processes in man are not so prominent, neither do they run together. In the quadrumana, they project more than in man, and incline downwards. The number of sacral vertebræ varies in the quadrumana—two in the cercopithecus paniscus; three in the cercopithecus jacks; three also in the simia lar, sylvanus †, the papio mormon, and maimon, the lemur mongom, the simia sajou, apella (Lin.), have each respectively four ‡; The simia troglodytes has five. ||; and the sai, capucina (L), is said to have six. The simia troglodytes then, as regards the sacrum, most resembles *man*. The sacral foramina differ in number according to the varying number of the vertebræ.

*Section 6.—Os Coccygis.* In respect of the number of coccygeal vertebræ, the order simia, they may be divided into those with tails and those without. The simia jannus has two coccygeal vertebræ; the sylvanus and the lar three each; the troglodytes and the satyrus four each, which is the number in *man*; but these vertebræ are broader and larger than the human, excepting the first, which unites with the last vertebræ of the sacrum: nor do they incline so much towards the cavity of the pelvis, but descend more directly,

\* Ed. Tyson. Anat. Pigmy. Lond. 1699. 4. † P. Camper. Dusseldorf, 1791. 4 Tab. 3, fig. 7. Galen, Liber de ossib. Cap xi., in which book he has substituted the anatomy of the ape to that of man. ‡ W. Josephi. Anatom. &c. Gotting., 1787. Tab. 5, fig. 2. || Tyson l. c. p. 89.

and hence, according to Tyson, it arises that the coccyx in the troglodytes forms a protuberance under the skin (in this respect) the human embryo strongly resembles the simiæ.\* The Lemur tardigradus has five coccygeal vertebræ; the papio mormon eight; the papio maimon twenty; the circo-pithecus jacho twenty-seven; the lemur mongox and cercopithecus saniscus thirty-three. The number of coccygeal vertebræ is never so constant as in man; whence it happens that the numbers observed by different persons vary, often very much even in the same species. "The reason of this variation is to be sought for in the observers themselves, not in the animals; and to be contained in the difficulty of deciding amongst the separate vertebræ of the pelvis, what vertebræ are to be assigned to the sacrum, and what to the coccyx. Three vertebræ only in the cercopithecus I have described can be assigned to the sacrum. The wing-shaped portion of the first vertebræ on each side is the only one which has a distinct union with the os ilium, quite otherwise therefore than in man, in whom the symphysis with the ilium extends as far as and includes the first, second, and third, spurious, that is sacral vertebræ. The two vertebræ which in the circo-pithecus now follow, and which form with the first coccygeal vertebræ a kind of obtuse promontary in the middle of the pelvis, have broad thin transverse processes, truncated at their extremities, which unite with each other and with the first vertebræ by the angles of their apices, or summits, and by means of a cartilaginous substance and a ligamentous expansion; the same is effected by an osseous substance in the schunk, musteta, &c. Next come four coccygeal vertebræ perforated, short, with narrow transverse processes and oblique processes still rather large, the first of which has still a vestige of the dorsal spinous process, but the second first shews the abdominal spinous process to be described below. The sixth coccygeal vertebræ still shows on its upper surface the remains of the excavation (foramen pro medulla spinali) which almost immediately ceases."—*Autenreith*.

The first six vertebræ of the coccyx in the cercopithecus-jacho, paniscus, papio maimon, lemur mongox, and briefly, in all the long-tailed quadrumana, have true spinous processes which tend somewhat obliquely upwards; from the same there proceed obliquely upwards on either side ascending oblique processes, the rounded extremity of which is united to the posterior surface of the descending oblique processes of the vertebræ above. Their transverse processes are sufficiently long, inclining downwards and backwards. These six superior vertebræ of the coccyx are perforated, which holds also in the tail-less apes, in whom for the most part the os coccygis is composed of three vertebræ, the simia troglodytes and satyrus excepted. In the last perforated vertebræ of the coccyx exists the end of the canal for the spinal marrow, which Galen asserted also of man;† but already this error had been exposed by Vasalius,‡ who shewed that in man the canal for the spinal marrow extended no farther than the os sacrum. The remaining coccygeal vertebræ are longer, but towards the terminations they again become shorter and more slender. The longest vertebræ of this region in the papio maimon

\* P. Camper; l. c. p. 186.

† Galen. Lib. de Ossibus. C. xi.

‡ Vasalii de Corp. human. fabrica. Basil, 1555. Ejus epistola rationem morumque, &c., &c. Basil, 1516, p. p. 49.

is 5"; in the *cercopithecus paniscus*, 1" 3"; in the *lemur mongoz*, 1" 6". Each vertebrae may be divided into a body, an inferior and a superior extremity. The body is oblong, and includes four unequal surfaces. The upper extremity, thicker than the inferior, has a rounded articular surface, uniting to itself the preceding vertebrae. Around this surface there are tuberculous processes. Two of these processes are divided, so that in the terminating vertebrae there are six processes present. The lower extremity of the vertebrae ends in an articular surface, around which three processes only are placed. The tuberosities, placed around the joints or articulations, looking upwards, evidently correspond to, or originate in, the oblique and transverse processes of the superior vertebrae, altered in their form.

In the *cercopithecus*, already so often mentioned, the elongated vertebrae of the os coccygis are evidently similar to those described in the former paragraph, at that place where they rise above the posterior margin of the pelvis. In the tubercle placed around the superior articular surface, itself inferior and bifid, the two first vertebrae of the more distinct portion of the tail, properly so called, as well as the three other vertebrae, placed between the beginning of the distinct tail, and the sacral vertebrae, have a spinous process, quite similar to that which, in the dorsal vertebrae, looks backwards. This little bone is forked with two diverging crura, leaving between them a foramen, resting on the tubercles around the articulation, and looking towards the abdomen with the apex downwards. These abdominal spinous processes are united to the bodies of the vertebrae by a cartilage, or rather to the intermediate fibro-cartilage than to the vertebrae themselves. It is worthy of being mentioned, that these same abdominal spinous processes are not only found in the mus and the mustela, but also in the dolphin. Tyson, in his work on the *Anatomy of the Porpoise*, describes them in these words—"Besides the processes already mentioned, I find on the abdominal aspect of the vertebrae, other processes opposite to the dorsal spinous processes, connected with their intermediate fibro-cartilages. They consist of two slender little bones, joined at one extremity, and separated at the other, so that their bases form a series of foramina, through which run a number of blood vessels, in a manner quite similar to the medulla spinalis in the canal formed by the dorsal spinous processes. These processes, like all others of the vertebrae, gradually decrease as they approach the first caudal vertebrae, until at last they entirely disappear.—*Autenreith*."

*Section 7.—Ossa innominata.* These bones, before they reach the adult state, are composed, as all agree, each of three bones,—first, the os ilium; second, the os pubis; third, the os ischium. 1. The os ilium, in the *quadrumanus* differs widely from that of man.\* For these bones do not diverge so much, nor do they form a cavity so large and distinct as in man, but ascend, diverging only a little as it were, upwards from the middle of the acetabulum; they have a triangular form, and are slender and much longer than in man. The body of the os ilium, or at least that portion of it which, with the os ischium and the pubis, assists in forming the acetabulum, is broader in the *quadrumanus* than in man, when compared with the superior crest, for the crest in the *quadrumanus* is broader than the body only by some lines; whereas in

\* W. Josephi l. c., Tab. v., Fig. 2. P. Camper l. c., Tab. lii., Fig. 7.

man the crest is 7" 6''' broad, the body only 2" 6''' . The external surface is broad in man, and marked with separated fluctuating lines; in the quadrumana it is narrow, almost perpendicular, and deeply excavated, especially forwards behind the anterior margin; this happens especially in the *simia sajou* and *sylvanus*. The internal surface is composed, in many quadrumana, of three smaller ones—first, an anterior; second, a posterior and inferior; and third, a superior and posterior. The superior anterior surface is situated quite anteriorly (this is the rudiment of the larger pelvis.—*Autenreith*.) The posterior and inferior surface looks more inwards, (and assists in forming a smaller pelvis.—*Autenreith*.) The posterior and superior surface, rough and unequal, forms the articular plane by which the os ilium is united to the os sacrum, and embraces the superior, posterior, and broadest portion of the internal surface. (In this surface is to be included that small portion which, at the back, overtops the os sacrum.—*Autenreith*.) In man, three margins are assigned to the os ilium, an anterior, a superior, and an inferior posterior; in the quadrumana also, three are present, the anterior, the superior and posterior, which is indeed the inferior margin in man, though being more parallel to the anterior, ought rather to be called the posterior. The anterior margin is comparatively longer than in man, and as long again as the superior. The superior margin, which is very short, runs from the anterior to the posterior spine; this spine touches, superiorly, the os sacrum; it is straighter in the *simia*, in some almost horizontal, in others somewhat convex, as in the *simia satyrus*.<sup>\*</sup> (In the *cercopithecus*, the superior margin posteriorly is strongly curved downwards, anteriorly making almost a straight line, and passing into the anterior margin of the os ilium almost at a right angle; as if with a knife you had divided the human os ilium in the middle.—*Autenreith*.) From the posterior spine there next descends the posterior margin; this is very long and composed of two equal parts, the superior of which is perpendicular and joins the sacrum; where this articulation ceases the inferior portion of the posterior margin commences, and is first curved anteriorly, then assumes a perpendicular direction as far as the junction with the os ischium, and thus forms the incisura which in man is called the superior ischiatic notch, without the aid of this bone. The varieties in height, length, and breadth of the os ilium in different species of the quadrumana, may be seen in the annexed table of measurements.

Section 8.—2. The os pubis does not differ so much in the *simia* from the same bone in man as the os ilium. It is also divided into a horizontal and a descending branch. The horizontal branch, extending from the anterior part of the acetabulum to the spinous tubercle of the symphysis pubis inclusive, is in man longer than the descending branch; in the quadrumana, however, it is shorter, and on its external surface has no crest or fissure. The descending branch commencing at the spinous tuberosity or tubercle, descends, and, with its fellow forms the symphysis pubis, is in the quadrumana much longer; the symphysis pubis is increased, and at the same time the depth of the pelvis, for the bones of the pubis are connected, not merely by the angles between the descending and horizontal branches, but the descending branches themselves are united throughout their whole length; nevertheless this structure does not prevail in all, for in the lemur *tardigradus* they meet only by the angles. By this junction there arises in some that keel formed projection, which is clearly

<sup>\*</sup> Camper l. c., Tab. iii., Fig. 7. A.B.C.D.

wanting in man. The greater length of the os ilium makes the conjugate diameter of the pelvis greater than the transverse.

*Section 9.—3.* The os ischium in them also consists of an ascending and a descending ramus. In man, the ischiatic spine is in the descending ramus, which according to Meyer,\* and Josephi,† the quadrumana have not, but in its place a rough protuberance (as perhaps in all animals.—*Autenreith.*) The tuberosity of the ischium, on the other hand, is longer and broader in the quadrumana, projecting more outwards and anteriorly, and especially remarkable in the simia lar, the sylvanus, and the papio marmon. The ascending ramus is more slender and narrower; it ascends to the union with the os pubis at a wider angle than in man.

*Section 10.*—The acetabulum is composed of these three bones, the greater part by the ilium and ischium, the smaller part by the pubis, and therefore it might happen that, in some species, the os pubis has no share in the formation of the acetabulum. This fact is contended for by Cunauld ‡ and Meyer, || but Josephi § doubts their opinion. (In the cercopithecus alluded to, the os pubis distinctly forms a portion of the acetabulum.—*Autenreith.*) The acetabulum in the quadrumana is much more distant from the crest of the os ilium and nearer to the sacrum, (as in all animals, *Autenreith.*), but in other respects differs little from the human, unless it be that the incisura of the acetabulum is deeper and extends further towards the os ischium.

*Section 11.*—Behind the acetabulum forwards, and downwards, the foramen ovale is formed by the union of the os pubis and ischium. This foramen in the quadrumana, with reference to the whole animal, is more and more oblong, and is largest and almost round in the cercopithecus jaccho. The foramen ovale can only be said to be larger in the quadrumana than in man, when the cavity of the pelvis is compared with the area of the foramen, but it is less, if the size of the whole animal be compared to it. Of all mammalia, man has the largest pelvis, compared with the size of the whole body, and hence also it may arise that he has the largest foramen ovale. It is still larger in woman, although shorter than in man. In a male skeleton of elevated stature, I found the superficies of the foramen ovale to be to the total length of the skeleton

	as 991 to 1000 ;
In the female skeleton equally regular,	as 1101 to 1000 ;
In the cercopithecus, already so often mentioned,	as 357 to 1000 ;
In the rabbit, almost of the same size,	as 392 to 1000.

It may be conjectured from these measurements by how much the smaller pelvis in man exceeds that of animals, passing over here in silence the larger pelvis; this appears to be necessary, as well from his erect position as from the larger size and rounder form of the foetal head.—*Autenreith.*)

*Section 12.—4.* *Bradypoda.* The os sacrum of the bradypi-didactylus, and myrmecophagus didactylus, is composed of four vertebræ. In the myrmecophagus didactylus (L.) the spinous processes of the sacrum are of the same

\* Augenehmer und nützlicher Zeitvertreib mit Betrachtung curioser Vorstellungen allerhand Thiere, sowal nach ihrer gestalt als auch nach der Accuratesse davon verfertigte Structur ihrer Scelete von Joh. Dan. Meyer, Miniaturmahler. Nürnberg, 1748. 36. iii. Thle. fol. p. 17.

† W. Josephi, A. D. S., p. 302. ‡ Memoires de l'acad. d. Scienc. de Paris. Anno 1735, p. 383. § Josephi l. c., p. 305.



height and thickness as those of the lumbar and dorsal vertebræ, so that the passage of the one into the other cannot be perceived. The nine-banded Tatu has three sacral vertebræ.

*Section 13.*—The *os coccygis* of the *bradypi-didactylus* has eight vertebræ; the nine-banded tatu, 28; the *myrmecophega didactylus*, 42.

*Section 14.*—*Ossa innominata.* The internal surface of the *os ilium* is curved in the middle, and has three smaller surfaces, a superior, inferior, and internal; the former are broad, the internal narrow. The external surface is concave. The pubic bones of the *myrmecophega didactylus* have an opening between them of a line and a half in extent. (Whether this hiatus, spoken of as occupying the place of the symphysis pubis be real or not, is still to me very doubtful; in the skeleton of the European hedgehog, when freed of all soft matter, the bones of the pubis have a gap between them of two lines and more, but along a slender cartilage, which placed transversely forms the symphysis in that animal, cannot escape the notice of the more careful observer. The pelvis of the *leasypus* shews another form of the pelvis meriting notice, and which will be described a little further on.—*Autenreith.*)

*Section 15.*—4. *Chiroptera.* The *vespertilio caninus*, and the *murinus*, have each four sacral vertebræ, but the *caninus* has three coccygeal vertebræ, the *murinus* has ten. The seventh of these is larger than the others, and is four lines long. Pallas \* says of the *vespertilio cephaloteide*, that the bones of the pelvis are slender, and do not meet at the pubis, lest this narrowness interfere with the birth. In the *caninus* the *os ilium* is not three sided, as in the *murinus*, but its external surface is very convex. Above the acetabulum there is a very large spine. In the *caninus* the *ossa pubis* are slender, and meet each other; it is the same in the *murinus*. In the *caninus* the foramina ovalia are broader than long. The bodies (tuberosities?) of the bones of the ischium in the *vespertilio vampyre* are plain, with cleft margins united together; thus the posterior aperture of the pelvis shut in by a continuous margin, is oval, the horizontal branches of the bones of the pubis alone (*angles between the horizontal and descending branches alone? A.*) forming the symphysis and uniting into a half circle. † The pelvis of the *vespertilio murinus* is remarkable for the spinous tubercle of the *os pubis* extended into a very long spine. According to the drawing of Meyer this spine ascends still higher, so as to seem to form a complete foramen, with a horizontal ramus of the *os pubis*, perhaps joined by a ligament to the *os ilium* by its apex. To the spine the ligament of Poupart is admitted by all to be attached. I could find neither this ligament nor the perfect abdominal ring in the male *masupialis didelphis*; the vessels and crural nerves proceeded unprotected beneath the small accessory bones and the margin of the acetabulum; so that that little bone, which shuts in the abdominal pouch in the *didelphis*, seems to me nothing else than the spine of the pubis, composed of that little bone itself and its articulation with the horizontal ramus of the pubis joined together. But this spine of the pubis seems to arise simply from the ossification of the end of the ligament of Poupart, as the tendons become ossified in the feet of birds, and so are united to the

\* P. S. Pallas *spicilegia zoologica*. Fasc 3. Berol, 1787, p. 23.

† Cfr. G. F. Herman *Disser. Observationes et anecdota ex osteol. comp.* Argent, 1792, 4. p. 12.

bone without a distinct termination. Perhaps it is not to be wondered at, that the same abdominal pouch, which had hitherto been noticed only in the genus *didelphis*, has lately been detected in a species of New Holland Bat, since this genus has such distinct spines of the os pubis. The skin seems to gape in these species between the spines, as it does in the human monstrosities, in whom the bones of the pubis gapes, being united by no symphysis; as likewise happens to those with hare lips, in whom the maxillary bones are not united; the skin of the head is also wanting in those fetuses, in which a great portion of the vault of the cranium is deficient. Since it so happens that in almost all animals the teats are placed in the lower part of the abdomen, it may be the more readily comprehended why they are placed in the abdominal pouch. Nevertheless, all these considerations offer no sufficient explanation of the peculiarities in the structure of the internal genital organs in the *didelphis*.

Very broad, slender, and almost papyraceous ascending and descending rami of the os ischium still further distinguish the pelvis of the *vespertilio murinus*; like that large osseous lamina in the situation of the manubrium of the sternum, and like the broad osseous terminations of the inferior ribs at their sternal extremities. The foramen ovale is very small, but truly oval; the conjugate diameter is very long and oblique; the bones of the ilium, elongated and linear, are inclined backwards, triangular, with margins slightly winged; of the three surfaces of this bone, the anterior is the only one between which the bodies of the sacral vertebrae project; the other posterior is internal, the third posterior external. The symphysis of the pubis is very short; the descending branches of this bone, and the ascending ramii of the ischium, proceed as in man. Between those branches the inferior aperture of the pelvis is narrow, perhaps in the male, but the greater pelvis, always broader, ascends backwards, covered only by the very narrow sacrum and the still narrower os coccyx, or perhaps rather longitudinally divided into a right and a left portion. The anterior coccygeal vertebrae have very short and broad transverse processes, cut short at the apex and the margins almost running together; the vertebrae of the distinct portion of the tail are elongated, very slender and simple. The pelvis viewed generally, with a reference to the thorax, is very small; can it be that the pelvis of the female bat is so narrow, lest the weight of a broader pelvis should interfere with her flight! or, that the mother may more easily carry along with her in her flight the young, adhering to the mammae upon her broad breast? also, in a manner, as the young of the *didelphis* born in an imperfect state, are finally developed after birth, whilst adhering to the mammae.—*Autenreith*.

*Section 16.—5. Glires. Rodentia, or Gnawers.* In very many rodents the os sacrum is composed of three vertebrae, as in the common mouse, the rat, the woodmouse, the common squirrel, &c.; four in the hare, the guinea-pig, the aguti, and the crested porcupine; five in the alpine marmot, and in the beaver. In this order of the mammalia the lumbar vertebrae pass gradually into the sacral, and the sacral into the coccygeal. The posterior portion of the os sacrum is somewhat more slender than the anterior, yet in some, as in the mouse, both portions have the same breadth.

*Section 17.*—In this natural family of animals, the *coccygeal vertebrae* are numerous; the guinea-pig has six, the crested porcupine ten, the hare sixteen

the common squirrel twenty-one, the field-mouse twenty-four, the common mouse twenty-eight, and the rat thirty-six.\*

The very great diversity which affects the forms of the pelvis in this order of animals, enjoins the necessity of separating animals of the hare from those of the mouse and squirrel tribe, which are intermediate between each order. The hare and the rabbit have the sacrum commencing by a broad vertebra, then indeed already towards the second vertebra becoming acuminate and extremely narrow throughout the rest of the vertebrae, sacral and coccygeal. The transverse processes of the sacral vertebrae are deficient, and in their place on each side a short-winged margin, unbroken, accompanies all these vertebrae. The sacral vertebrae in the hare readily run together. The sacrum of the hare is more curved than that of the rabbit, and looks backwards. In the rat, however, and in the mouse, the os sacrum is straight; and although it be very narrow, it yet, by its broad and confluent transverse processes, forms a covering for the pelvis, completed by the ligamentous expansions, so that, at the side, there scarcely remains a vestige of the great sciatic notch. The transverse processes of the three anterior sacral vertebrae in the mouse and the rat are nearly equal, excepting that the process of the first vertebra is thicker and stronger than the others, and unites with the os ilium. The transverse processes of the second and third sacral vertebrae are broad, thin, and truncated, and they run together by the angles of their extremities. The transverse processes of the six coccygeal vertebrae following the last sacral are narrower, slender, free at their summits, enlarged, and bent forwards. The elongated vertebrae of the distinct tail have much in common with the coccygeal vertebrae of the cercopitheci. Between the third and fourth, fourth and fifth, fifth and sixth, sixth and seventh coccygeal vertebrae, abdominal spinous processes are also found in the rat and in the mouse; these are formed of a small hollow bone, having the figure of a pole-axe or halbert. The squirrel, as regards the os sacrum, holds, as it were, a middle place between the hare and the mouse; for the transverse processes of its three sacral vertebrae do not run together into a continuous margin, as in the hare, nor, has the os sacrum so great a breadth as in the mouse genus; but although it be acuminate backwards, it does not become so narrow. It agrees, then, with the rat in this respect, that the transverse processes of the first, and in the squirrel of the first three coccygeal vertebrae, are broad, and so assist in completing the covering of the pelvis: on the other hand, they agree with the rabbit in this, that transverse processes appear in some of the coccygeal vertebrae in that place, where finally the tail becomes distinct.—*Autenreith*.

*Section 18.*—The *ossa innominata* of the rodents are very long. The superficies of the os ilium in the beaver presents three surfaces, of which one, the superior, is very broad; a second, inferior and internal, is concave; a third, inferior, is external. The os ilium of the alpine marmot has also three surfaces—an internal and two external.

Concerning the bones of the mouse consult Merres.† “Das Darmbein ist sehr lang und schmal, und hat an seiner obern Fläche einen erhabenen Strich der gerade bis zum Hüftbein fortläuft, und daselbst über der Pfanne des Schenkelbeins eine kleine stumpfe Erhabenheit bildet. Das Hüftbein wird

\* Blasius Merrem *vermischte Abhandlungen aus der Thiergeschichte* Gott. 1781, p. 61.

† Bl. Merrem, l. c.

nachher sehr breit und bildet mit dem schmalen Schambeine eine sehr grosse längliche Oeffnung."

The symphysis of the pubis is always osseous in the beaver (the symphysis of the bones of the pubis is sometimes found osseous not only in the horse, but also in the aged dog, and in the fox, which seems to prove that in these animals, during parturition, there is no force acting against this symphysis as in woman.—*Autenreith*.) The foramina ovalia are very large in this order, especially in the common squirrel. The ossa innominata in the glires sufficiently resemble each other, in as far as regards the os ilium: for they are narrow, convex on their external surface, so as to appear obtusely carinated, with an internal concave surface, almost canaliculated towards the apex, and bent outwards with a rounded subacute summit. The hare alone has the superior extremity of the os ilium larger and less convex than the rest. The os ilium of the rabbit is shorter, but broader, according to the size of the animal. There exists, however, this principal difference: that in the hare and in the rabbit the symphysis of the pubis is very long, so as to form a semi-canal, in the hare but little turned upwards; and that the branches of the os ischium meet under an acute angle, and the three-sided tuberosities of the os ischium much extended backwards, so that there is a deep fissure of the pelvis between them. On the other hand, as has been mentioned above, the *mures* have a very short symphysis, and the branches of the os ischium not only unite at a right angle in a very slender tuberosity, but also almost at the same angle with the descending branches of the os pubis. The squirrel holds, as it were, a medium between the mus and the hare; it has a distinct tuberosity of the os ischium, but like the rat, it has the branches of the os ischium meeting almost at a right angle.—*Autenreith*.

*Section 19.—6. Feræ.* The greatest variety of the bones of the pelvis exists in this artificial order of animals, both as regards size, as between the shrew (*sorex fodiens*) and the polar bear; and as regards form, as between the european mole, the lion, and the gigantic didelphis. The os sacrum is composed in most of the feræ of three vertebræ, which number is by no means so constant and frequent in any other order; in some species, however, there are exceptions, as in the didelphis opossum, and gigantea, in which the sacrum has two vertebræ; in the european mole, and in the *ursus arctos*, the os sacrum five vertebræ. Blumenbach † says of the os sacrum of the european mole—"Beim Maulwurf hat es längst seiner Hinterseite statt der Dornfortsätze einen ununterbrochenen schneidenden Rücken, der dem kleinen Thiere bei seiner unterirdischen Lebensart besonders aber bei der Weise, wie er die mit den Vorderfüßen losgegrabene Erde mit den Hinterfüßen hinter sich wirft, sehr zu statten kommt." Daubenton ‡ says—"The first vertebra of the sacrum has no spinous process; those of the remaining four are united to each other, forming an osseous crest."

*Section 20.*—In nearly all the feræ the tail is long, and the coccygeal vertebræ are numerous; the European mole has 12, the common weasel 14, the stoat 16, the fox and the shrew 19, the civet cat 22, the common cat and the leopard 23, the common otter 25, the genet cat 28, and the opossum 29. The superior of these vertebræ are perforated by a canal for the spinal mar-

† T. F. Blumenbach, *Beschreibung der Knochen*. p. 305.

‡ *Histoire Naturelle*, Tom. viii. 4, p. 103.

row. The middle vertebræ are the longest, especially 7 of them; in the lion the length of the longest vertebra is 2", 2'", in the leopard 1", 2'", in the didelphis opossum 10", in the common weasel (*mustela vulgaris*) 2". The *mustela vulgaris* has abdominal spinous processes, like those of the rat, but the *mustela putorius* has short broad abdominal spinous processes between the first caudal vertebræ; these processes have the summit bifid. The hedgehog seems rather to have sesamoid bones at the joints of the coccygeal vertebræ, than true abdominal spinous processes.—*Autenreith*.

*Section 21.—Ossa innominata.* As the length and proportions of these bones, whether compared with each other or with the other bones of the pelvis, may be best seen by inspecting the table of dimensions at the end of the dissertation, I shall here only speak of what seems most worthy of notice. The pelvis of the genus didelphis, in addition to the usual number of bones, has two which all other animals want. The didelphis, as is well known, has a pouch in the lower part of the abdomen, in which the young live after they are born until they have attained a fitting age. This pouch is supported by two bones, which may be called its janitors. Edward Tyson† has left us an excellent description of these bones of the pelvis in the opossum. "These marsupial bones, or janitores marsupii, are two strong bones, in length about two inches, and so united to the superior and inferior margins of the bones of the pubis, that at their base, where they unite with the bones of the pubis, they touch each other, whilst at their other extremity they are distant from each other by about two and a half inches. At the basis, two heads may be seen, about half an inch broad; the larger one turned towards the symphysis of the os pubis, the other, the smaller one, towards the haunch bone, together with an intermediate sinus between these heads, in which is received a certain protuberance of the os pubis. (In the didelphis, the protuberance of the os pubis does not correspond to the marsupial sinus, but a certain obtuse notch of the margin of the os pubis corresponds to it.—*Autenreith*.) These bones, which as they ascend from the bones of the pubis become more slender, and about the middle do not exceed a quarter of an inch in length, cannot be moved towards each other, nor from each other, but inwards, as it were towards the spine, and outwards from it." Whilst, however, they are moved outwards, they are of necessity widened, whilst inwards they are closed, because their bases by turns form an angle. The bones of the pubis and of the ischium are very large and long in the gigantic didelphis; the os ischium is likewise as long as the os ilium. The rami of the os pubis and ischium are so united that no angle exists between the branches of the os ischium in the inferior aperture of the pelvis. The foramina ovalia are very long, and the acetabulum placed in the middle length of the pelvis has no notch. The ossa pubis of the European mole are separated from each other; in the shrew the distance is three lines. Blumenbach‡ says—"Unter den vierfüssigen säugthieren hat der Maulwurf wol eins der sonderbarsten Beken. Es ist so eng und schmal, dass es ausser einigen schlanken Muskeln, blos Nerven und Blutgefässe zu fassen, im stande

† Mich. Bernh. Valentini amphitheatrum Zootomicum. Giesse 1720, fol. p. 132, et delineatio horum ossium in Tab. xxvi., Fig. 5. Præstantissimam delineationem pelvis didelphidis giganteæ dedit E. Horne, in commentatione sua: Observations on the mode of generation of the Kangaroo in Philosophical Transactions, 1795; 4 Tab., xxi.

‡ T. F. Blumenbach, Geschichte und Beschreibung der Knochen, p. 328.

ist, hingegen die Geburtstheile *oberhalb* der Schambeine sich öffnen müssen. The genital organs of the European mole by no means open above the symphysis of the pubis, but beneath it, as in all other mammals. There is this important difference, however, that not only the vagina and urethra, but likewise the whole urinary bladder and the rectum, are placed beyond (extra) this symphysis of the pubis; almost as in those human monstrosities wherein the ossa pubis not meeting mesially, the urinary bladder hangs beyond the symphysis. The ossa ilium of the mole, as has been already mentioned, are united throughout their whole length to the os sacrum; but where the acetabula are placed there commences a very narrow and scarcely perforated excavation of the pelvis. The symphysis of the bones of the pubis, united, however, by no intermediate cartilage, is there found behind the intestinum rectum. From this incomplete symphysis, which is either very short or very long, the rami of the bones of the pubis descend, gradually widening and becoming more distant from the coccyx. There arises an oblong cavity anteriorly very narrow, ample posteriorly, open inferiorly, in the exit of the pelvis, between the bones which on each side form the foramina ovalia. Into this excavation there descends the intestinum rectum after it has passed over and beyond the symphysis of the pubis, and in the same excavation there lie a long vagina and double horned uterus, with lenticular-shaped ovaria, all of which organs in the unimpregnated state are very small; the urinary bladder with the urethra lies over them. The recti muscles of the abdomen, divided as it were towards their pelvic extremity, surround the neck of the bladder, and at their insertion into the pelvis provide, as it were, a place for it. The angle which the descending rami of the os pubis form with the ischium, differs from that of other mammals, being acute, and descends much lower than the position of the tuberosities of the os ischium. (The pelvis of the sorax is very similar to that of the mole, but its symphysis is still more open, and the pelvic excavation is larger, as if to afford a space for containing the internal genital organs as in other mammals.—*Autenreith*.) The following description of the ossa innominata of the hyena, has been taken from Daubenton. † “The haunchbone of the wolf is proportionally shorter and larger anteriorly than that of the leopard, but the same bone in the hyena, is still shorter and larger than that of the wolf; the inferior part of this anterior extremity is greatly extended and spread outwards. The foramina ovalia differ from those of the leopard in this respect, that they are as wide as long. The groove formed by the reunion of the bones of the pubis, and of the ischium on each side, is proportionally shorter than in the leopard, and even than in the wolf.” The structure of the pelvis might safely be taken as a means for dividing the class feræ into two more natural classes. The larger feræ, and which are truly carnivorous, as the felis, canis, viverra, and mustela, have the ossa ilia smooth, excavated on their external surface, and joined to the os sacrum by a very small portion on their inner surface; the symphysis of the bones of the pubis is in them elongated. But in the smaller feræ living on a variety of food, vegetable as well as animal, as in the opossum, hedgehog, sorax, mole, and bat, which are all distinguished by their anterior teeth from the former, in these the ossa ilium are three-sided, stick-shaped, and joined to the sacrum by almost their whole length.

† Daubenton, Histoire nat. T. ix., p. 294.

The symphysis of the pubis is in them, with the exception of the didelphis, either very short or sometimes evidently wanting; the bones of the ischium, as in the genus *mus*, are flattened, very broad, thin, and the position of the tuberosities is nearer to the promontary, than are the angles in which the descending rami of the pubis meet with those of the ischium. The pelvis of the hedgehog, at the symphysis of the pubis, is remarkable for a wide hiatus between the bones, nor is this opposite to the acetabulum, but much lower down, and seems to arise from a very acute union of the rami of the pubis and ischium; it remarkably resembles in form the pelvis of birds, as of the pigeon, &c.; on the other hand, the pelvis of the mole, by the union of the os sacrum and ilium into a single osseous lamina, seems also to pass partly into the form of the pelvis of the bird. We have already noticed the distinguishing characters in the pelvis of the bats (*Autenreith*).

*Section 22.—7. Solidungula.* As the horse is the most important of all the animals connected with the veterinary art, I shall dwell longer on the description of its pelvis. Five vertebræ compose the os sacrum, which in youth are both separated and connected by cartilages; by degrees, however, as the cartilages ossify they become contiguous, so that at last no vestiges of their original separation remain. The os sacrum shows two margins, and two surfaces—a superior or external, and an inferior or internal; also a base and apex to be considered separately. The broad margins anteriorly show a considerable surface, full of tuberosities and little depressions, serving to unite it with the os ilium; this surface of the margins is called by some the sigmoid or semilunar aspect. The external, or superior convex surface, is tuberos, and furnished with several prominences: in the middle there arise five separate and distinct spinous processes; the second of these is the longest, but it is also the slenderest: the rest gradually decrease in size and thickness, terminating in a quadrangular little head in the apex. I have often found these spinous processes united together. Between the bases of these processes there are four foramina, communicating with the vertebral canal. Close to these, on each side, there are other four foramina, which also lead into the vertebral canal. The inner, or inferior surface of the sacrum, is concave and without tubercles. Near the margins it is perforated by four foramina; between each pair of these holes there is an elevated transverse line, the remains of the former intermediate cartilages. The anterior portion of the base of the sacrum is the broadest; in the middle of this base is a broad, oval, articular surface. Above this articular surface, is the triangular opening of the canal of the sacrum passing throughout its whole length; this is a continuation of the vertebral canal. Close to the aperture of this canal, there arise two oblique processes each an inch long, and having the same direction as the corresponding processes of the lumbar vertebræ. On each side of the sacrum, and towards the side of the articular surface, there arise two large prominences which unite with the transverse processes of the last lumbar vertebra; by some these are called the articular tuberosities. On the apex of the os sacrum may be observed a small, oval, articular surface, connecting this bone to the first coccygeal vertebra.

*Section 23.*—The coccygeal vertebræ vary much in number. The usual

number is 18; the eight anterior are the longest. The first and second coccygeal vertebrae are composed of a body, a spinous process, and two prominent transverse processes. Through these, and through the third, fourth, and fifth vertebrae, the vertebral canal is prolonged, and there it terminates. The last vertebrae have no spinous processes, but only small tubercles in their place. The coccygeal vertebrae ought to be divided into two distinct classes, not only in the genus *Equus* and *Simia*, but in all mammal quadrupeds: into the perforated, which contribute to the formation of the pelvis and contain the termination of the medulla; and the imperforated, which form the more distinct tail. The former are shorter than the latter, but for the most part have spinous processes, often transverse processes, and always oblique processes; the posterior coccygeal vertebrae are elongated, and in place of processes, in every genus of animals with tails, have merely tubercles around the articular surfaces. Man evidently wants the first kind and has the second.—(*Autenreith*.)

*Section 24.—Ossa innominata.* These bones in the young horse, as in all other mammals, are composed of three—the os ilium, ischium, and pubis. The os ilium is triangular, and outwards from that angle which is distant from the sacrum, is bent; the external aspect is concave and without tubercles: the internal on the other hand, regarded as a whole, is convex, and hence from the middle of the crest of the ilium, as far as the superior spine, it is full of tuberosities and impressions; at this part the os ilium unites with the sacrum. Towards the lower part of the os ilium, almost about the middle of its inner surface, a line begins to be formed, which passes obliquely as far as the inner surface of the os pubis, and there terminates; by which line the pelvis is divided into a greater, or anterior, and a smaller, or posterior, according to the nomenclature of these parts in man. In the horse, the abdominal portion of the os ilium is so small, that the greater pelvis can scarcely be described in that animal.—(*Autenreith*.) The crest of the os ilium is not convex, but runs almost in a straight line as far as the two tubercles, then suddenly contracts, and descending again terminates in other two tubercles. The superior and inferior margins of the os ilium are much excavated. The os ilium of the horse is remarkable for its length, when compared with the horizontal branches of the pubis which form the inferior margin of the pelvis, hence it happens that in this very ample pelvis the acetabula and thigh-bones are nevertheless sufficiently near each other, and in this large animal a small space only is observed between the thighs towards the lower part of the belly.—(*Autenreith*.) The external surface of the os pubis is convex, the internal, concave. It is divided into an anterior branch and a posterior. The anterior ramus has a prominent line on its anterior margin, but more towards its internal surface, however, which is called the crest of the pubis. In the anterior margin there also arise on each side two prominences, which are called the spines of the pubis. The posterior margin of the anterior ramus assists in the formation of the foramen ovale. The external surface of the posterior ramus is convex, the internal, concave; the external margin of this ramus forms the largest portion of the foramen ovale. The os ischium may be divided into a body and two branches, and it is very large when compared with the os pubis; its upper ramus forms by its internal concave margin the external border of the foramen ovale.



The inferior rami of the os ischium are often united together by a symphysis, which is frequently ossified; its internal surface is concave, its external, convex. The rami of the os ischium posteriorly form together an obtuse angle, which is named "the angle" of the bones of the ischium, and they end in a protuberance about an inch long, called the tuberosity of the ischium. The acetabulum is oval, and deeply notched towards the anterior margin of the foramen ovale; formed as usual of the three pelvic bones, the os ilium, however contributing the largest portion. The foramen ovale is formed by the os pubis and os ischium, chiefly however by the latter.\*

*Section 25.—8. Pecora.* In this order, or natural family, the os sacrum does not present any great variety: in many species it is composed of four vertebræ, as in the camelus, dromedarius, the cervus elephas, the antilope dorcasæ: in others, however, it has five vertebræ, as in the bos taurus, antilope cupricapra, cervus dama, &c.

The external surface of the os sacrum in the ox is less convex; its spinous processes incline forward, and are united together, excepting the fifth, which is very short, its length being only 9", whilst the first of these processes measures 2" 6". The anterior portion of the os sacrum is not so broad as in the horse; moreover, it is not united to the transverse processes of the last lumbar vertebra, for which reason it has no articular tuberosity.

*Section 26.—*The coccygeal vertebræ are not so numerous in this class of animals as in the preceding; the antilope rupricapra (chamois) and the dorcas have each ten vertebræ in the coccyx; the goat twelve, according to Allamand;† in the giraffe there are eighteen; in the buffalo fifteen, and in the ox eighteen. In the ox the spinous processes, and on each side two transverse processes of the seven anterior coccygeal vertebræ, are abated or withdrawn. The canal for the spinal marrow extends in the ox to the eighth coccygeal vertebra.

*Section 27.—*The ossa innominata of the ox differ widely from those of the horse; the superior crest (*angular process*) of the os ilium is larger, and terminates externally in a large tuberosity, which is especially evident in lean cows. This spine (angular process) in the ox approaches nearer to the transverse processes of the lumbar vertebræ, and therefore the distance between them is not so great in the ox as in the horse. The bones of the ischion are larger than those of the horse, both in length and breadth, and are so connected together that the angle is more obtuse, for the distance between the tuberosities of the bones of the ischion is 4" 6", and the incisura shews 2" 4". The symphysis of the ossa pubis terminates in an eminence, called the spine of the bones of the pubis.‡ The posterior superior branches of the bones of the ischion terminate in two tuberosities—an upper one, to which is attached the sacro-ischiatic ligament; and an inferior, which is larger. I need not speak of the other parts of the pelvis of the ox, as they so much resemble those of the horse. The remaining group of this order have the

\* Delineationes ossium pelvis equini, vide, Ruini, Anatomia del Cavallo, Conf. Snape: The Anatomy of the Horse; London. 1686. fol.—W. Gibson. Cf. New Treatise on the Diseases of Horses; London. 1751. 4to.—G. Stubbs: The Anatomy of the Horse. London. 1766. fol.—La Fosse; Cours d'Hippiatrique. Paris. 1772. fol. Tab. 9. Figures 24, 25, 26, 41, 42.

† In Buffon. Hist. Nat. Supplém. T. vii. 4, p. 356.

‡ Viter. Méd. Veterin. Lyon 1771-3, Tom. I., p. 88

pelvis of a form greatly resembling that of the ox. I shall copy merely some examples from Daubenton, who thus speaks of the buffalo:—"Of the three tuberosities formed by the posterior part of each os ischium, the inferior is much longer from above downwards than the two superior, the more anterior of which (upper tuberosities) is placed higher than the corresponding one in the ox, and which has been called a spine." Again, Daubenton speaking of the dromedary, says—"The upper part of the haunch bone is very large, and forms an acute angle by its anterior extremity; the foramina ovalia are nearly round." The pelvis of the goat presents some peculiarities worthy of notice: the symphysis of the pubis, elongated, is somewhat bent in the middle into a distinct angle superiorly, so that the exit of the true pelvis in this animal is directly the opposite to what it is in man, in whom it bends forward, towards the abdomen. The os sacrum of the fallow deer greatly resembles the narrow sacral bone of the hare, in which there also exists a similar though less conspicuous flexion of the pelvic semi-canal, towards the coccygeal bones. In this flexion may, perhaps, be found the reason why amongst the glires (rodents) animals are generally provided with lengthened tails; the hare, and amongst cattle, the deer, have the tail short; both animals are remarkable for their extraordinary leaps, in performing which the middle of the back is bent downwards. The portion of the os ilium, which in the goat overtops the plane of the os sacrum, is bent outwards, or externally is short, somewhat broad, and with a sub-acute apex.

*Section 28.—9. Bellæ.* The os sacrum of the elephant is composed of three vertebrae, separated by large intermediate cartilages, which late in life evidently become ossified. The os sacrum of the pig is composed of four vertebrae, having very small spinous processes, and separated from each other by large intervals. The os sacrum of the *sus tajarsu* has five vertebrae.

*Section 29.*—The coccyx of the *sus tajarsu* has seven vertebrae; that of the common pig, *sus scrofu*, and of the elephant, thirty-one.\*

*Section 30.*—The ossa ilia of the common pig greatly resemble those of the ox; the bones of the pubis and of the ischium are broader, hence the foramina ovalia, and indeed the whole pelvis is wider than that of the ox, comparatively, that is, regard being had to the difference in bulk of the animals. The ossa inominata of the elephant greatly resemble the corresponding human bones, especially the ossa ilia, which in the elephant are very broad, and not elongated, as in other mammals; they reach merely the last lumbar vertebra. Their inner surface is concave, their outer convex, as in man; but the inferior spine of the crest of the os ilium is terminated by a very large tuberosity; the diameter from one to the other, according to Perrault,† in an elephant seventeen years of age, was nearly 2'; according to Blair,‡ in an elephant twenty-six years old, 3' 6" English feet; and in the pelvis of an elephant eleven years old, preserved in the Museum of Hesse-Cassel, I found the measurement to be two feet four inches.

The annexed table of measurements has been compiled from the observations of Daubenton, Pallas, Merrem, Allemand, Blair, and my own:—

\* Perrault Mem. Paris. 1671-1676, fol. T 2.

† Mem., p. 5. Hist. Nat.

‡ P. Blair on the Anat. of the Elephant. Philos. Tr., vol. 5, Lond. 1732, p. 82.

# NAMES OF ANIMALS.

	Breadth of the os ilium.	Length of the os ilium from the upper portion of the crest of the ilium.	Diameter of the Acetabulum.	Length of the ischium from the post angle of the foramen ovale to the tuber ischi.	Breadth from the superior margin of the ischium to the other margin in the middle.	Depth of the excavation between the superior margins of the bones of the ischium.	Depth of the angle of the ischium.	Length of the foramen in ovalia.	Breadth of the foramen in ovalia.	Length of the Sacrum.	Breadth of the anterior part of the Sacrum.	Transverse diameter of the cavity of the Pelvis.	Conjugate diameter of the Pelvis.
II. <i>Quadrupeda.</i>													
<i>Simia troglodytes</i> -	2 4	4 4	...	...	...	...	...	1 2	10	...	...	1 11	3 4
— <i>lar</i> -	1 3	3 2½	...	...	...	...	...	1 9½	6½	...	...	1 6½	2 5
— <i>sylvanus</i> -	11	4	...	...	...	...	...	1 2½	9½	...	...	2	2 9
— <i>cynomolgus</i> -	...	...	...	...	...	...	...	1	6½	...	...	1 7	2 2
<i>Papio mormon</i> -	...	...	...	...	...	...	...	...	...	...	...	2 5	2 7
— <i>maimon</i> -	...	...	...	...	...	...	...	...	...	...	...	2 3	2 9
<i>Cercopithecus paniscus</i> -	3	1 1	...	...	...	...	...	2½	3	...	...	1 4	2 8
<i>Lemur tardigradus</i> -	7	2	...	...	...	...	...	7	6	...	...	11	1 6
— <i>mongoz</i> -	2	9	...	...	...	...	...	4½	2	8	1	...	...
III. <i>Bradypoda.</i>													
<i>Myrmecophaga didactyla</i> -	4½	1 8	4	3	...	...	...	9	5	...	...	...	1 10
<i>Tatu novem cinctus</i> -	...	...	...	...	...	...	...	2	1½	4½	1½	2½	...
IV. <i>Chiroptera.</i>													
<i>Vespertilio murinus</i> -	...	...	...	...	...	...	...	4	5½	...	...	6½	1 0½
— <i>caivinus</i> -	...	...	...	...	...	...	...	...	...	...	...	...	...
V. <i>Gliræ.</i>													
<i>Sciurus volans</i> -	1½	6½	1	2½	3½	2½	...	3½	2	4	2½	3½	6
— <i>vulgaris</i> -	3	9½	2	4	5½	5	...	5½	3½	9	6	6½	6½
<i>Glis esculentus</i> -	...	...	...	...	...	...	...	3	2	5½	3½	3½	4
<i>Mus silvaticus</i> -	...	...	...	...	...	...	...	3½	1	4	2½	2½	5
— <i>musculus</i> -	...	4	...	...	...	...	...	2	1	3½	2½	2½	5
— <i>rattus</i> -	...	...	...	...	...	...	...	5	2	8	5	5½	9
<i>Marmotta alpina</i> -	4½	9	4½	8	11	19	...	10½	7	11	1	16	1 1
— <i>ericetus</i> -	...	...	...	...	...	...	...	4	2½	8	5	4½	8
<i>Sciavia porcellus</i> -	6	2½	2	5	...	6½	...	6	3½	2	3	1 6	10
— <i>aguti</i> -	9	2	4	1 4	8	6½	...	5½	1 11	11	2½	3½	11
<i>Lepus timidus</i> -	1 7	2	5	1 1	11	9	10	10	6½	2 3	1 6	2	1 1
— <i>cuniculus</i> -	7	1 6	3	9	7	6	6	6	5 1	6	11	1 1	1 10

<i>Arctomys europaeus</i>	34	1 4	24	2	6	10	...	4	3	9	44	14	7	1 2
<i>Sorex fodiens</i>	44	74	14	14	...	...	...	24	1	3	24	14	7	...
<i>Talpa europaea</i>	34	18	6	9	114	7	...	64	44	10	84	1	14	...
<i>Didelphis opossum</i>	1	2 3	34	1 6	1 9	10	...	64	84	11	4	...	10	1 2
<i>Viverra zibetha</i>	5	1 3	34	9	9	8	...	64	54	7	9	...	16	1 9
— genetia	5	1 3	34	...	...	...	...	8	5	10	9	...	94	11
<i>Mustela foina</i>	14	54	34	...	...	...	...	2	2	14	9	...	9	104
— vulgaris	7	1 11	...	...	...	...	...	10	7	1 6	1	...	5	11
<i>Lutra vulgaris</i>	4 7	6 5	2	3 9	3 6	2 9	...	2 6	1	10 5	3	...	8	3 10
<i>Ursus arctos</i>	1 1	2 5	7	...	...	...	...	114	7	1 4	1 9	...	11	1 6
— taxus	1 1	2 3	64	...	...	...	...	114	8	1 4	1 3	...	10	1 14
— lotor	2 2	4 1	9	1 6	3	...	...	1	10 1	7 2	9	...	1 5	2 6
<i>Canis familiaris</i>	2 3	4 1	1	...	...	...	...	1 5	1	1 1	8 1	...	5	2 2
— lupus	1 1	1 11	5	...	...	...	...	...	7	10 1	2	...	11	1 3
— vulpes	2 11	3 4	11	6 1	10 1	11	...	94	1	3	1 7	...	2 4	2 5
<i>Canis hyena</i>	2 5	6 9	4	6 3	3 2	3 1	...	3 2	8	1 3	1 2	...	8	3 3
— tigris	2 7	6 6	1	6 4	3 2	3 1	...	3 2	6	3 9	3 8	...	3	3 8
— leopardus	1 6	4 11	13	3 2	2 1	8 1	...	3 1	11	2 3	2 2	...	2 2	2 11
— lynx	11	2 9	...	1 8	1 2	9	...	11	1	8	1 5	...	10	1 6
— catus	6	1 10	5 1	4 1	...	6	...	2	9	6	10 1	...	3	1 2
VII. <i>Solidusgula</i>	10 6	10 6	6 5	6 5	3 3	6 2	6 3	2	3	7	8	...	6	8 6
<i>Equus caballus</i>	9 2	3 6	1	6 5	6 1	10	...	2 2	2	8	8 2	...	11	7 9
VIII. <i>Pecora</i>	2 4	3 6	9	11	...	1	1 1	3	8	6 2	6 1	...	1	2 3
<i>Camelus dromedarius</i>	2 9	4 10	2	10 1	10 1	...	11	1 8	10 4	7 3	...	...	11	2 8
<i>Capra ovis</i>	...	3 6	...	...	...	...	...	...	...	4 2	4	...	9	3 10
— hircus	6 8	9	2	4 6	2 2	...	...	...	...	3	2 2	...	2	2 6
<i>Antelope dorcas</i>	10 4	11	2	3 5	6 3	2 3	...	4 3	2	1	3	...	9	5 4
<i>Bos taurus</i>	8 5	10 6	2	5	4 5	4 3	...	3	11 3	11 2	6 9	...	5	7 10
— bubalus	1 4	...	3	2 6	1	...	...	3	2 2	4	9	...	2	5 9
— bonasus	4 3	...	...	...	...	...	...	...	2 2	4	9	...	10	1 16
<i>Giraffa camelopardalis</i>	4 3	...	...	...	...	...	...	...	...	...	...	...	...	...
<i>Cervus dama</i>	5 3	7 4	1	6 4	7 2	4 2	...	4 2	5	1	2 1	...	11	2 7
— elaphus	2 3	3 6	8 2	1 8	11	9	...	9	3	2 2	3	...	6	5
— capreolus	...	...	...	...	...	...	...	...	...	...	...	...	9	1 10
IX. <i>Belluae</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<i>Sus scrofa</i>	1 10	5 9	1	1 3	3 3	3 1	11	10	1	4	10 3	...	11	3 1
— tajacu	1 7	3 9	...	2	1	...	...	1	2	8	6 2	...	84	1 9
<i>Elephas*</i>	1 1	1 10	10	...	17	...	...	5	6	4	...	...	1 5	1 6

## 26 FISCHER ON THE PELVIS OF THE MAMMALIA.

*Section 31.—10. Cetacea.* The pelvis of the cetaceæ seems rather a rudiment, and the last phalanx in the series of the diverse forms of the pelvis, in like manner as the rudiment of the pelvis, in the *anguis fragilis* (slow-worm) is said to connect the lizard tribe to serpents.

Merk,|| at least, does not venture to give a description of the pelvis of the cetaceæ, without adding delineations to it, on account of the simplicity of the structure. I have myself observed, during the coarse dissection of sailors, that the *delphinus phocaena* (porpoise dolphin) has a pelvis, or at least a bone, which shuts in, as it were, the abdomen, in the situation of the bones of the pubis. A.)

|| Hessische, Beytr. zur Gelehrs. und Kunst. 1. Band, 6, Stük.

ON  
CONGENITAL  
FISTULÆ OF THE NECK,  
WITH A  
SUCCINCT HISTORY  
OF THE  
BRANCHIAL FISSURES  
IN MAMMALS AND IN BIRDS.

BY  
FERDINAND MAURITIUS ASCHERSON, M. D.

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## INTRODUCTION.

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Nearly about two years ago, a certain matron who was in the habit of consulting me, mentioned to me accidentally, in conversation, that an unmarried sister had been affected from her earliest years, perhaps even from birth, with a certain small opening, situated in the neck, and in the region, indeed, of the thyroid gland, by no means conspicuous, yet pouring out a limpid fluid, and resisting obstinately all methods of cure hitherto employed; to whom I replied, that I held the cure of the fistulæ to be too dangerous for me to attempt, considering the slight inconvenience which it caused the patient. But when I recollected that I had not read of such a case, nor heard of it otherwise; and when I suspected from the reported situation of the fistula, that it perhaps was connected with the thyroid gland, and might throw some light on the obscure function of this organ, I urged the lady to obtain for me a sight of the fistula. This wish I obtained with difficulty, the girl on purpose concealing every thing, and with such care that, so far as I know, the person whom she afterwards married remains to this day ignorant of her complaint. What I at length observed, as will be stated below, convinced my opinion that the fistula was connected, not fortuitously with the thyroid gland, but perhaps was even its excretory duct, as Vater, Santorini, Cosch-witz, Schmidt and Mireller, Larrey and others had determined, and which had terminated on the skin by an early malformation, instead of opening into the trachea. After I had in vain sought in authors for a similar case, I sought for information from my illustrious teacher Rudolphi, begging him to furnish me with some hints from the copious fountain of his experience and learning; he informed me that no similar case had occurred to him, an unexpected piece of information, considering the lengthened and successful pursuit of pathological anatomy, and the immense erudition of this distinguished man; but he at the same time gave me the programme recently published of the celebrated surgeon Dzondi, \* for considering the contents of which an opportunity will be given a little further on. Afterwards it so happened that I examined eleven cases of this deformity, which overturned indeed that opinion as to the share the thyroid gland had in their production; but which convinced me, from their close resemblance to each other, and with the first case seen, that an aberration or deformation occurring so regularly in a determined or fixed place could not be accidental, but congenital and hereditary, and connected with a certain stage in the necessary evolution of the embryo. What this change may be I shall endeavour to explain below; as accurate a description as possible of the case preceding in each instance the explanation. Thus separating the facts from the opinions thereon, that the reader may thus be enabled to form his own judgment.

\* De Fistulis Tracheæ Congenitis. HALLÉ, 1829.

## PART I.

### OBSERVATIONS.

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*Case 1st.*—Johanna F., of the family B., (the girl about whom I have spoken in the introduction), twenty-two years of age, pale, of rather a scrofulous and leucophlegmatic habit of body, having dark eyes and hair. In the right side of the anterior part of the neck, at the internal margin of the sternocleido-mastoid muscle, below the thyroid gland, which was a little increased in size, three quarters of an inch from the upper margin of the manubrium of the sternum, a small aperture is seen in the skin, much less than the point of an ordinary sewing needle, having a narrow margin, and of a reddish-blue colour, generally glued together with a dried up secretion, and not readily seen. Several times during the day the skin is raised up in this place into a roundish swelling of the size and figure of a pea, on which a slight pressure being made outside, sometimes even spontaneously, a drop of clear, viscid, fluid, not unlike albumen, flows out with the collapse of the swelling, and the aperture, soon glued together again, remains different from the rest of the skin only by the colour of the margin. If the pharynx, and at the same time the larynx, and thyroid gland attached to the trachea, are raised up, as happens in deglutition, simultaneously with the aperture, the adjoining skin surrounding it is plainly drawn back, and thus a fold, or transverse depression, occasionally half an inch broad, and rather deep, in the bottom of which the aperture is hid. I formerly argued that its connection with the thyroid gland was the cause of this retraction of the fistula; but now I think, from the similarity of the third case, and from other arguments to be given shortly, that the pharynx was chiefly concerned in this matter. I was able, not without difficulty, to introduce a slender silver probe, and directed upwards and inwards, to insert it half a line; in which I notice, in investigations of this nature serving no therapeutic purpose, that it is a great obstacle to me, not only in this case, but in the second and fourth, that very many persons, especially sensitive females, dread the application of the probe; so that it might happen that a longer fistulous sinus, perhaps curved, or not receiving the probe on account of its narrowness, eluded my search while investigating. An injection being made with the assistance of Anel's syringe, scarcely a drop entered the aperture, the rest flowed out. If she made an expiration, the mouth and nose being closed, no air came from the orifice. In whatever way, I investigated, I could discover no method having any influence over the more or less frequent filling of the fistula, except the taking of food, which, as I have observed, accelerates the accumulation of the contents, doubtless from the more frequently repeated motion which the fistula undergoes during deglutition. All which things, observed two years and more previously, now



also, after the woman was married and had a son, I find unchanged, except the sinus, which I did not happen to examine before, about two lines broad and four long, and extending obliquely inwards and downwards from the aperture, beyond the termination of which, a probe may be still further moved, as it seems to the touch, for about a quarter of a line in the same direction through a lax cellular tissue. The little son of this woman shews no vestige of such a conformation, nor her parents, sisters or brothers. The mother of Johanna F. assured me, when enquiring about the origin of the fistula, that it was congenital; that she was accustomed as soon as her strength permitted, to examine the children, whether, by chance, they shewed any congenital fault of body, therefore, occupied thus on the second day after the birth, that she had detected the orifice of the fistula in Johanna, resembling the puncture of a needle, but the discharge appeared much later, and only when the child began to walk. A medical man some years previously had made an attempt to cure the fistula, by inserting into the aperture a small painted piece of wood, previously immersed in some corrosive liquid, (probably the liquor of the muriate of antimony.) Violent pain, swelling of the neck, suppression of the discharge, and the sensation of a foreign body in the pharynx, followed this attempt. For the space of three days the patient was unable to swallow at all; this whole train of menacing symptoms by degrees ceased, the discharge being restored by means of poultices.

*Case 2nd.*—Sophia V., married to a butcher, 27 years of age, hair somewhat brown, blue eyes, slender figure, and delicate.

In the right side of the neck, at the external margin of the internal head of the sterno-mastoid muscle, a quarter of an inch above the sternal extremity of the clavicle, a palish red papilla, of an oval shape, is seen very plainly, whose greatest diameter, one and a half line long, parallel to the margin of the muscle, stretches obliquely downwards and inwards, and which is covered with a thin pellicle composed of dried mucous. But if you remove this pellicle, by wiping it away with a wet sponge, the papilla, now of a bright red color, shews an oblong depression. You can penetrate into the sinus with a fine probe, which, like the papilla, one line broad and two lines long, extends downwards and inwards from the orifice placed nearest the skin, which at this place is very thin and almost transparent; I did not succeed in passing the probe upwards. In the left side of the neck, at the internal margin of the sternomastoid muscle, and almost three quarters of a line above the manubrium of the sternum, exactly therefore of the same height, and only a little further removed from the median place of the body, (median line as it is commonly called,) a papilla very similar is seen, but round, one line in diameter, and shews such a narrow aperture that I could not introduce the smallest probe; which aperture, almost once every day, the surrounding skin being first raised like a transparent vesicle, was wont to discharge a drop of thickish limpid fluid. Evidently in the same manner, but much rarer, the larger aperture also on the right side discharged a clear fluid. On making an expiration, the mouth and nose being closed, air issued from neither of the apertures. During deglutition the apertures do not follow the movements of the pharynx.

The woman, after I had first seen her, was attacked a few days afterwards

by puerperal fever, and during this, with the secretion of the lochia and milk; the discharge also from the fistula was evidently suppressed. Her health being restored, the right aperture did not discharge; the left poured out something only every second or third day.

Concerning the commencement of the apertures the woman could tell this only, that she had always had them, as far as she could recollect. Concerning her children, the elder a girl, displayed the same abnormal appearance, (see following case,) a younger boy being unaffected. Besides this, I was assured, that the same affection was present in the mother of the woman, nor less in her sister and her four children, and that it had affected those now dead, her other sister and brother being unaffected.

*Case 3rd.*—Augusta V., five and a half years of age, daughter of Sophia V., (see preceding case,) of a flabby habit of body, strumous, fair complexion, blue eyes, almost always labouring under a rheum, and half deaf.

In the right side of the neck, at the internal margin of the sterno-cleido-mastoid, three quarters of an inch from the superior margin of the manubrium of the sternum, a small depression of the skin is seen, whence it happens that the true aperture of the fistula is drawn a little inwards and upwards, and covered by the skin above, forming a small transverse fold, which fold, a line in length, is extended during deglutition to the length of the third part of an inch. If the skin of the neck is drawn forcibly downwards, the fold is opened up, and an aperture about the size of the head of a small pin is seen, whose circumference shews nothing peculiar. The aperture discharges a variable quantity of a liquor like pus, sometimes from four to five drops escaping. The discharge ceasing for some time, and the fluid being collected, the fistula makes itself evident, like a cord to the touch, about the size of a crow's quill in thickness, and running under the skin in a direction shortly to be described, from which, with moderate force, you can press out fluid. That swelling, which in some other cases shews itself in the region of the aperture before the evacuation of the fluid, is here wanting, probably because the fistula affords a space sufficient for the contents, perhaps also because the more copious secretion prevents the former closure of the aperture. The probe is easily introduced, and in a direction towards the great horn of the hyoid bone; upwards and a little outwards it can be moved forwards for an inch and a half, so that at first it is close to the skin, but as it proceeds it penetrates more deeply. When she makes an expiration, the mouth and nose being closed, no air issues from the aperture.

That I might search the fistula with more accuracy than could be done with the probe, I used Anel's syringe filled with some mild liquid. When the syringe was completely emptied, a little of the liquid flowed out, or some place swelled. During the injection the girl was constantly swallowing, and afterwards named correctly the taste of the injected liquid, which experiment, proving plainly the connection of the fistula with the pharynx, I often repeated before witnesses, of whom I will only name here the celebrated Rudolphi, whose testimony is without doubt of the highest authority, on account of the extreme care employed by him in determining facts. Once, when I had forcibly injected, the girl said that she felt it in her ear (in the eustachian tube?)

From what the mother relates and remembers with certainty, we may con-

clude that the fistula was congenital; that she had detected the aperture immediately, when she bathed the infant for the first time, when a few weeks old, and that the discharge appeared at length after the third year. The nature of the discharge from that time was always the same, but the quantity variable. Occasionally, for some days, nothing is said to have issued, but now more frequently some is discharged daily, so that the girl's collar was always soiled by it. By any excitement, but chiefly by violent exercise, the discharge was manifestly increased.

When these observations were written, a message came to me that an incipient discharge was manifesting itself in the other side of the neck. At length, making an examination on the left side, in the same place where it existed in the right side, I found a small yellowish mark, only some lines deep, difficult to observe, having an aperture which is evident only when the discharge is issuing, but was hardly visible to the sight aided with a glass. The thickish discharge was of the same nature as that I have now described. After I had often visited the girl for a week, the mark appeared to be more conspicuous, the discharge was evidently more copious, and when it collected shewed plainly a passage extending upwards and downwards from the aperture, which appeared to terminate in a roundish swelling near the clavicle. From the time when the other fistula began to discharge, the discharge of the former was greatly diminished.

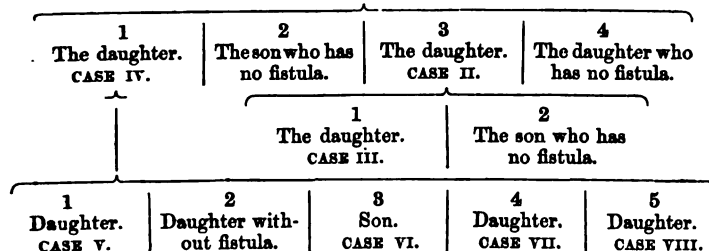
*Case 4th.*—Charlotte N., wife of a builder, 35 years of age, complexion rather sallow, and in good health, the sister of the woman about whom I spoke in the second case.

In the right side of the neck, in a small depression between the sternal extremity of the clavicle and the insertion of the sterno-mastoid muscle, you observe a round papilla manifest, of a bright red color, about a line in diameter, provided with an opening. If you stretch the skin, drawing it upwards, you may observe a semicircular depression in the lower half of the papilla, whose upper margin, straight, and marked with some small elevated spots, is placed in the transverse diameter of the papilla, while the lower margin, semicircular, is surrounded by a slender red border, following the circumference of the papilla; in which lower margin a slender probe can be introduced everywhere, even to half a line, but in no direction deeper (compare however what we said previously) under the skin, so thin at this place that the point of the probe is almost seen through the margin. The aperture neither follows the movements of the pharynx, or does it give out air. I have not seen the discharge, because I could only once examine the woman, as she did not live in town. But she tells me that the skin in the region of the aperture is sometimes raised in the form of a transparent vesicle, accompanied with a burning pain, not very severe however, which she relieves by evacuating under pressure a minute drop of a limpid and very thin liquid contained in the vesicle; that the time required for collecting this amount of liquid varied; sometimes, especially after excitement, a few hours sufficed, so that it became necessary to empty the fistula five or six times a day, or even more frequently. The person was otherwise in good health, with the exception of a deafness left after the last pregnancy. She had five children, a boy and four girls, who all, as the mother reports, with the exception of the third child, had at their birth

precisely the same description of fistula, on the same side, and with the same excretion of a limpid fluid, and exactly in the same place as in the mother; these children are still alive, with the exception of the youngest girl, who died in her second year. The mother also of the person we now speak of, had likewise a fistula of the same nature, and suffered a burning pain as in her own case;—wherefore as Charlotte N., but not Sophia V., being younger by eight years, well remembers, she taught them from their tenderest years frequently to press out the contents of the fistula.

*Case 5 to 9.*—We have here therefore, in four children, as many cases, that is, from the fifth to the eighth; in the mother we have the ninth case. In which it is to be noted that eight cases thus shewing themselves in the same family, and in three generations, leave no doubt respecting the hereditary nature of the deformation. That this may be made more apparent, I shall, as lawyers do, give a genealogical tree of the family.

The Mother.—CASE IX.



*Case 10.*—Z: a minister of the gospel, forty-two years of age, strong, almost athletic, and enjoying the best health. In the right side of the neck, near the sternal extremity of the collar bone, towards the inner margin of the outer head of the sterno-mastoid muscle, there may be seen in the skin, which is unchanged however as to color, a depression about the size of the head of a small pin, which contains the entrance of a fistula scarcely observable. From this place it is easy to follow a little cord about the thickness of a crow quill, proceeding upwards and inwards under the skin, and finally disappearing under the anterior margin of the sterno-mastoid muscle. During deglutition the skin around the opening forms a little shallow fold, about half an inch long, and which fold is drawn a little upwards. I had no opportunity of introducing the probe; but it had been introduced in former years, when it reached that spot where the little cord dips behind the muscle. When the mouth and nose are closed, and expiration attempted, no air comes from the opening. The matter excreted from the fistula is puriform, varying in quantity, and is said at one time to have equalled the half of a small spoonful. The greatest quantity was secreted in summer, also after any excitement caused by violent motions, by exciting drinks, as wine, strong coffee, &c. In respect to the mode by which the fistula was emptied, whether as in many cases a little swelling first appeared, I could not be certain, because the place was not exposed, or only slightly covered as in women; I suspect, however that in this respect the case resembled case third. On the left side of

the neck, evidently in the same place as the aperture in the right side, a portion of the skin about a line in diameter, somewhat reddish, shews a small opening about a line in depth, which also secretes a liquor, but in so small a quantity that the opening was pointed out for the first time to the patient himself, he never having observed it before.

The right fistula was discovered by the mother of this gentleman soon after birth, who often narrated to him that she had observed, whilst washing him with a sponge, a few days after birth, a tenacious filament was drawn from the neck by the sponge; and on enquiring more accurately into the matter, she discovered that the filament was formed by a liquor excreted from the opening situated in the neck, which appearance afterwards always shewed itself whilst washing him. This polite gentleman jocosely related to me, that whilst he lived formerly at Berlin, he could scarcely keep from his throat the knife of the excellent Mursinua, who always contended that so rare an affection, although it gave rise to no inconvenience, yet ought to be removed by the scalpel, for the greater glory of the art. For the last three years, the discharge has diminished, and at times has almost disappeared. No vestige of such a fistula could be observed in the parents of this gentleman, nor in his seven brothers, nor seven children.

*Case 11.*—*M*: a tailor, thirty-four years of age, strong constitution, healthy. In the right side of the neck, just beyond the insertion of the inner head of the sterno-cleido-mastoid muscle, a little below the upper and anterior margin of the sternal extremity of the collar bone there is a reddish depression, admitting of no probe, and equalling in size the head of a small pin. 2''' below this, and 1½''' more outwards, upon a somewhat level elevation, there is an oval depression 1''' long, ½''' broad, whose long diameter is directed obliquely inwards and downwards. A pale red tubercle, similar to the telangiectasia often observed in children, fills this fovea, closely joined to the margin of the fovea at its inner and lower part, but superiorly and externally, merely touching the margin, so that you may introduce a probe between them and move it about freely under the skin towards the fore part of the margin, for 1 to 1½''' inch. I observed no secretion.—1''' deeper and again more inwards in an almost perpendicular direction, below the last fovea or depression, a third may be seen, 1''' in diameter and of but little depth, in the midst of which may be seen an opening equal in size to a pin's head, which gives out when pressed a drop of a viscous limpid fluid. A probe may readily be introduced, and passed upwards for half an inch without meeting any distinct impediment. Directly beneath the inferior aperture there is an irregular portion of the skin about three quarters of an inch in breadth, paler than the rest of the skin, with an elevated margin, and simulating a cicatrix. These apertures do not follow the movements of the pharynx; but on the head being turned strongly to the left side, that portion of the integument in which the apertures are included, is drawn upwards above the collar bone. It occurred to me to inject about the half of the contents of an Anel's syringe into the lower aperture, and at the same time to observe the movements of deglutition; but the extreme humidity of the patient produced fainting, and prevented me completing or repeating the injection; I cannot therefore for certain affirm its probable connexion with the gullet.

This was the account he gave of the origin of these openings:—About four years previously, in the situation of the uppermost opening, now closed, he formerly one morning observed a red spot, which he then and still considers to have been caused by the bite of a bug! Raising and pressing the skin, he observed the place to become moist. This excretion after it had continued for some time in small quantity, ceased, whilst about the same time the middle opening formed, which then, in like manner, commenced excreting, until at last the lowermost opening appeared, taking upon itself the office of the others. He never perceived, before my examination, that spot resembling a cicatrix, and asserts that he was never troubled with inflammation, abscess, ulcer, or any other affection of the neck, to which might be ascribed the origin of this spot or of these apertures.

From this account one might be led to believe that the apertures appeared only late in life. But seeing that it cannot be explained how, all the surrounding parts remaining sound, the amount of the secretion being exceedingly small, indeed just perceptible, these fistulæ could have arisen, the one following the other: since the apertures exist on the same side and in the same place which the fistulæ I have already described seem to prefer; since the habit or whole appearance and condition of these openings, and especially of the second, remarkably agree with some already described; (Case II, and IV,) and that a connexion with the gullet is not improbable; there remains scarcely a room for doubt but that these fistulæ were congenital, and had been merely overlooked, seeing that they did not strongly attract attention; which conjecture becomes still more probable by the observations I have made in Case III, respecting a fistula of the left side, detected later in life than usual.

The summary of these eleven cases seems to be as follows:

1. A congenital and hereditary deformation exists, exhibiting a fistula, the external opening of which is found in the anterior lateral part of the neck, and indeed near the sternum and collar bone. The more usual place or spot seems to be, the angle formed by the inner head of the sterno-mastoid muscle, and the sternal extremity of the collar bone (case IV, VIII, X, XI.) Sometimes however, the opening is upon the inner side of the muscle (case I, III.); and it is either present on both sides of the neck (case II, III, X), or, in as far as has been observed, on the right side only; when present on both sides, the right is always larger and placed higher.

2. The external aperture is always very small, sometimes surrounded with a coloured margin, or sometimes like a very small papilla, scarcely discernible.

3. The aperture sometimes follows the track of the pharynx (case I, III, X.); a probe may sometimes be passed in the same direction (case III, X, XI.); in other cases a sinuosity is found beneath the fistula. In one case a fluid was injected through the aperture into the pharynx (case III.); in another case (case I.), an attempt to cure the fistula gave rise to distress in the pharynx.

4. In most cases the fistula secretes a limpid thickish fluid: sometimes this fluid resembles pus, and then it is more abundant (case III, X.)

5. Of eleven cases, three occurred in men, and eight in women.

6. In some cases the fistulæ, although already in all probability they were present from birth, were yet evolved or developed, later in life. (Case III, XI)

The fistulæ described evidently have a certain affinity with the tracheal fistulæ, whose history we owe to Dzondi, although they differ from them much, both in their nature and origin. It is also singular that two forms of malformation resembling each other in kind, though widely different in nature, hitherto unknown, should have been detected almost at the same time. Such also is the fate of books!

The resemblance between these mal-formations consists in this, that they are found in the neck; are congenital and hereditary; and with the form of small fistulæ; their difference will be made manifest if you compare my descriptions with that of Dzondi's second case, which seems to me to exhibit the type or regular form of tracheal fistulæ: here is his description:—"In the middle of the anterior part of the neck, in the region of the incisura of the thyroid cartilage there was a small wound, rounded, and of about a line large, with a margin neither red nor swollen, nor surrounded with a fleshy elevation, not painful to the touch, and from which some drops of a puriform lymph flowed out when the surface was pressed on. An examination with a silver probe shewed a cavity of two or three lines in extent, almost round, but of little depth. A canal extending deeper could not be discovered with the probe, nor could the trachea be reached, although a finer probe was resorted to, on account of the narrowness and the oblique direction of the canal: but as often as air was forced from the lungs after shutting the mouth and forcibly closing the nostrils, small bubbles of air escaped from the bottom of the fistulous ulcer, a clear evidence that the fistula extended to and entered the cavity of the trachea." (Vide Dzondi's Translation, case ii, page 5.)

You see that this deformation is correctly referred to the defects arising from an interrupted continuity in the middle plane of the body, as has been often observed in the head, the chest, and the abdomen; whilst the symmetrical fistulæ, observed by me on each side, have quite another origin. But that nothing be omitted which has a direct reference to this matter, the reader ought first to be warned that a communication with the trachea was not proved in the fourth and last of Dzondi's cases, so that Dzondi himself might have referred these cases to those I have described, had such been known to him. As regards the origin of these fistulæ, it requires, I think, no argument to prove that their resemblance to each other was not merely accidental, but depended on some common cause, determining at once their nature and locality. Nor does it seem to me as requiring much argument to prove that they depend not on any disease of the fœtus similar to which occurs in the adult, but on an aberration of the formative *nisus*. Amidst all the aberrations of this kind, those caused by a persistence of a certain stage of evolution or development, are the most conspicuous. (Hemmungsbildungen.) And as according to the principle that every hypothesis be as simple as possible, we may regard nothing else as the cause of this deformation, if the history of evolution of the human embryo exhibits to us a transitory formation, by the persistence and establishment of which anomaly we may explain all the preceding observations. Now such we hold to be the branchial fissures, discovered by the celebrated Rathke; and therefore we subjoin a brief history of this celebrated discovery, which Burdach justly places amongst the most important of our age.

## PART II.

## A SUCCINCT HISTORY OF THE BRANCHIAL FISSURES.

A. 1825. Rathke\* observed in the embryo of a pig, three weeks old and 3" long behind the head and on each side, four fissures penetrating from the external surface of the body into the cavity of the pharynx, and decreasing regularly from the head backwards. In the embryo of a horse 8", long, in which the outer surface of the neck was entire, the inner surface of the cavity of the pharynx shewed four furrows on each side, the remains of openings now closed. Afterwards the same observer† found in the chick three fissures of the same kind in each side of the neck, of which the first and most anterior was covered by a somewhat prominent part, slightly resembling the branchial operculum of many fishes.‡ By which resemblance this celebrated man, who had already compared these fissures to the branchial openings in sharks, was perhaps led to the opinion that the arched laminae interposed between the fissures corresponded to the branchiæ of most fishes, the more however for this reason, that he had discovered clearly the strict correspondence of these laminae to the branchiæ of the viviparous Blenny in the first period of its evolution.§ This opinion, however, received its strongest confirmation from the discovery that the vascular system of the chick at first, clearly corresponded to that in fishes. A. 1826, in the month of September, the celebrated Huschke|| communicated to the associated naturalists and medical men at Dresden, as the sum of his observations on the evolution of the chick, that the aorta, leaving the heart and running between the branchial fissures of either side, sent off six vessels at right angles, which run to the internal surface of the branchial arches (which name he gave to these rudimentary laminae of the branchiæ) and towards the vertebral column are finally joined with the descending aorta. As regards the essential nature of the discovery, however, the observations of Rathke, which were published in November, 1826, in the *Transactions of the Acad. Cæs. Leopold. Carol. N. C.* ¶ The same remark applies to the disquisitions raised by Baer, to which we shall return further on, seeing that they treat very fully of this matter; he found five vessels sent off on each side, of which two had already disappeared on the fourth day of incubation. He also saw the branchial fissures in the embryos of the coluber, nubrix, and of the lacerta agilis. A. 1827, in the month of October, Rathke discovered in the human embryo of from six to seven weeks old, the branchial fissures, and supported by his former disquisitions, he announced that such fissures existed beyond a doubt in the embryos of all the vertebrata, at a certain early stage of their development. Afterwards Baer saw in dogs and rabbits four branchial fissures on either side, and in five branchial arches formed in their situation,

\* Isis. 1825. H. VI. S. 747.

† Ibid. H. X. 1100.

‡ It is worthy of remark, that Malpighius wrote nothing concerning these branchial fissures, or, at least, that branchial operculum, which is similar to that in the embryo of the chick.

§ Act. Acad. Leop. Carol., Tom. xiv., p. 1., Tab. xvii., Fig. 5—8.

|| Isis. 1827., S. 401.—Ibid 1828. H. 2, S. 160.

¶ Acta Acad. l. c.



and in that of the fissure of the mouth, he saw five vascular arches running from the abdominal to the dorsal aspect, or region.\* Baer also saw in man and in the mammals just named, the part which Rathke compares to the branchial operculum of fishes.

Before we describe the parts analogous to the branchiae or gills of fishes, as they have been observed in the human embryo, let us first shew them as they appear and again disappear in the chick. For we believe that this description, in the preparing which we chiefly follow Baer and Rathke, may the more readily supply the information required to fill up the deficiencies existing in the history of the same process as it occurs in the human embryo; since all our enquiries tend to prove more and more, that the strongest resemblance exists in the early formation of birds and of mammals.

According to Baer† at the commencement of the third day of incubation, the anterior termination of the heart, which afterwards becomes the bulb of the aorta, is divided into four pair of arches, of which the first runs to the junction margin of the aperture of the mouth‡ and is the most capacious, whilst the last pair is scarcely perceptible. Between those arches of vessels the mass of the body is extenuated, and thus by degrees three pair of fissures arise at first, two interiorly, then the third. The fissures penetrate into the commencement of the canal for the food, which is afterwards converted into the cavity of the pharynx, and the vessels lie in the falciform sections of the ventral laminae (branchial arches), which, outwardly convex and broader, inwardly concave and narrower, are united inferiorly with those of the opposite side by a thin membrane. The fissures are situated in a parallel direction, forming almost a straight angle with the longitudinal axis of the body. On each side, towards the inferior aspect of the vertebral column, the arches of vessels are united, thus composing two roots, which united, form the descending aorta. Towards the close of the third day, the first arch becomes more slender, then the second and third increase in size; on the fourth day the first arch disappears; the second arch also decreases a little, the third and fourth increase, and the fifth is added on the same day. At the same time however, the first branchial arch between the aperture of the mouth and first branchial fissure (the future lower jaw) is greatly thickened; the second arch is raised outwards into a lamina (the branchial operculum of Rathke), whose margin is by degrees directed more backwards, so that towards the close of the fourth day it so overlaps the second fissure, that it is only visible when looked at from behind.

The first fissure is closed in by the formative web or tissue; between the fourth and fifth vascular arch a new fissure arises somewhat more rounded than the others; this remains small. § All the branchial arches, but especially the two anterior ones, are increased in size, approaching each other by their lower extremities, and between them lies a firm stria, or groove, of the

\* Meckel. Archiv f. Anat. u. Physiol. 1287. No. iv. S. 5561—848, No. i. S. 143.—v. Baer de ovi mammal. et hominis genesi. Lipsiae 1828., Fig. vii. a.

† Ueber Entwicklungsgeschichte der Thiere. Königsb. 1828. S. 57, ff. Also in Burdach, Physiologia, Bd. ii, S. 281, ff.

‡ It is to be observed that the embryo rests on the vitellus by its abdominal aspect, and the situation of the parts thus determined; so that the abdominal side is the inferior, the dorsal the superior, the part nearest the vertex the anterior, &c. p.

§ Rathke, Act. Acad. Cæs. Leopold. Carol. Vol. xiv., P 1, p. 171.

primitive tissue, resembling the middle series of bores in the branchial apparatus of fishes, which this whole formation of structure greatly resembles. On the fifth day the second pair of vascular arches also disappears; from the last the arch of the right side is enlarged, so that, on a first look, it might seem that on the right side there were three, but on the left side only two vascular arches.† The first branchial tissue becomes difficult of recognition, the second is concealed more and more by the growth of the branchial operculum, but it remains open later than the two last fissures, which are closed towards the end of the fifth day. The first branchial arch, being so thickened or enlarged, projects more and more beyond the place in which the rest are placed, and is changed into the lower jaw; the os hyoides is formed above it and the second arch. On the sixth day the vascular arches which remain are drawn backwards, whilst the neck is extended and elongated: the branchial operculum, however, by encroaching covers, which, till the remaining fissure is elongated backwards, applies itself closely to the surface of the neck, and soon is seen with difficulty; sometimes, however, its posterior margin still, for some time, remains conspicuous, under the form of a slender elevated band. Rathke gave a fuller account of the mode in which the branchial operculum disappears, whose description we give in his own words, because he exactly indicates the place in which the branchial fissures ought to be, or must be found, if at any time they should remain from an imperfect action of the visus formations.‡

Let us proceed now with the observations made on the branchial in the human embryo; the first notice of which is entirely due to Rathke. || In a human embryo of six or seven weeks old, he discovered immediately behind the lower jaw, at this time extremely narrow, a fissure of some length and breadth on either side, which ran parallel to the superior margin of that manilla, and extended somewhat further than the manilla towards the neck. A more careful examination, the neck being divided in the middle plane, shewed that the entire fissure did not penetrate into the neck, but the posterior half merely, that nearest the neck. Behind this fissure, but separated from it by a considerable interval, was another, a little shorter, moderately converging with the point towards, and penetrating into, the pharynx throughout its whole length. Immediately behind the second was a third fissure parallel to it, which, though a little shorter than the second, was like it, open throughout its whole length. Behind the third fissure, at a moderate interval, was the termination of the neck, which anteriorly and laterally was swollen a little, similar in all these respects to the chick, and embryo of the pig, the heart being suspended in the abdominal cavity still open. The part of the body situated between the anterior fissures of either side was sufficiently broad and thick, having a pyramidal form, four-sided, almost regular, and suffi-

† On the sixth day the fifth arch of the left side disappears, and the other five arches remain, so that the third of each side is converted into the arteria innominata, the fissure of the right side into the trunk of the descending aorta, the fissure of the left and the fissure of the right side into the pulmonary arteries. The bulb of the aorta is divided into two vessels, one of which (the trunk of the aorta), arising from the left ventricle, provides or supplies with blood the arteria innominata and descending aorta: the other, arising from the right ventricle, becomes the trunk of the pulmonary artery.

‡ The whole merit of this discovery belongs to Rathke as regards detail, though the theory was fully known before his time. Vide Act. Acad. Cæsar. Leop. Carol. Vol. xiv., p. 174.

|| Isis, 1823. H.I.S. 108.

ciently deep, with the base turned towards the neck, which form was evidently produced by this, that the neck, extremely short, was strongly bent forwards. The subsequent second branchial rudiment was very narrow and slender, scarcely equalling in bulk a sixth part of the first.

Baer\* saw distinctly some of the branchial fissures of the human embryo in one which he believed to be five weeks old. In this embryo three fissures were present, by no means conspicuous externally, unless the lateral parts of the neck were removed; for a part of the neck situated before the first fissure concealed the branchial arches under the form of a short branchial operculum. The last fissure was much shorter than the two anterior ones. The cavity of the pharynx being opened, the fissures were still distinct.

Burdach† describes, in the following terms, the branchiæ in an embryo from four to five weeks old:—"Above the cervical tuberosity the vertebræ are not conspicuous by reason of the breadth of the medulla oblongata; the parietal bands lying close to the margins of the medulla oblongata, on each side of the neck, form four folds, or exhibit turgid transverse tuberosities, with deep furrows interposed.

Mueller‡ described an embryo of four weeks, shewing a similar structure. Four short rib-shaped processes nearly projected beneath the basis of the cranium, the second pair of which were united like a girdle in the middle plane of the body; between these, however, there were no fissures. Dr. A. Thomson || found in a human embryo of nearly six weeks, two eminences on either side, and two fissures. Likewise, in a human embryo of six weeks, in which Becker first saw the branchiæ shadowed forth, and which is preserved in our anatomical museum, there are upon each side of the neck four processes running downwards, and somewhat obliquely backwards, from the vertebral column (the embryo being placed on its abdominal aspect), and separated by deep sulci or furrows. In an embryo of two lines, preserved for some years in spirits of wine, which my learned and kind friend Phebus examined with me, there are two processes of this kind, on each side, behind the fissure of the mouth, having the form of oblong tubercles, at the same time arched, so that their concave sides look towards the head; the anterior of these is as large again as the posterior; they are more readily seen on the right side than on the left, but I cannot venture to affirm the presence or the absence of the fissures.

Let us now enquire whether the appearances or properties of the fistulæ of the neck, expounded more fully heretofore, can be explained by the conjecture, that these fistulæ are the vestiges or remains of the branchial fissures; and indeed their situation perfectly agrees with the observations of Rathke, that the branchial operculum, and consequently the branchial fissures placed behind it, are drawn downwards and backwards as far as the chest (c. p. 17). That symmetrical fistulæ exist on either side equally favours our hypothesis, and it may readily be understood that the defect in the formative process to which they owe their origin, may sometimes happen only on one side; but if this

\* Meckel, Archiv. f. d. Ph., 1827, iv. 8., 557.

† De fetu humano adnotationes. Lipsiæ, 1828, p. 4, conf. etiam. Tab. fig. 1.

‡ Meckel, Archiv. 1830, iv. 8. 4. 18. Tab. xi., fig. 11.

§ On the development of the vascular system in the fetus of vertebrated animals. Part II. (From the Edinburgh New Phil. Journal for January, 1831) p. 88. Tab. iv., f. 36.

occurs only on the right side, it may the more strongly be argued, that that side has a greater tendency to remain in its early stage of development from this very circumstance: a hypothesis also favoured by the formation of the *arteria innominata*, which almost alone preserves the early type, whilst the distribution of the vessels of the left side is greatly changed. But it has not, as yet, been for certain determined, which of the three fissures hitherto observed on each side remains, the rest disappearing. We have seen above, that the posterior fissures fill up, whilst the anterior is closed by the concretion of the branchial operculum with the surface of the neck. In order to explain, therefore, the persisting aperture, it seems sufficient to suppose that the operculum which Rathke, also, did not observe in the human embryo, had either not been formed, or its evolution so restrained, that the fissure at length remained open on the neck becoming elongated. It may be observed, also, that case XI., wherein three apertures remain open on one side, is the more readily explained by this, that all the branchial fissures of one side had continued open. 2. The form of the aperture does not indeed resemble a fissure; but we refer to former remarks, where it will be seen that the two posterior branchial fissures certainly resembled rounded openings. The form, then, is no obstacle to our hypothesis. 3. The continuity with the cavity of the pharynx, placed beyond all doubt in one of our cases, and made probable in two or three others, is readily explained in our hypothesis, and supports it with a very weighty argument. Nor does it prove any way against the theory, though it were hereafter, by chance, proved by dissections that the fistulæ were occasionally not connected with the pharynx; for it may be very readily understood how occasionally the dermal aperture may close, the pharyngeal remaining open, and *vice versa*; \* which latter case may happen more frequently than is imagined, but remain undetected, seeing that it is the pharyngeal aperture which naturally closes last; and may have given origin to some of the *œsophageal diverticula* described by Rudolphi. Let us suppose the external aperture to be but inferiorly closed, the secretion in the fistulous canal being increased might finally readily force it open, and thus the fistulæ will seem to have arisen in the person after birth, as in cases II. and XI. The sinuosities which I found, in some cases, below the opening, were perhaps formed by the subsidence of the retained secretion. 4. The secretion seems to be mucus, such as is secreted in greater, or less quantity, on every internal surface of the body. When an excretion is observed similar to pus and in larger quantity, a pathological condition has probably affected the fistula, such as gives rise to an anomalous secretion upon the mucous membrane of the nose and lungs. 5. That these fistulæ are really more frequent in women than in men, cannot be supported by a sufficient number of observations; but the opinion is in accordance with the greater number of aberration of the *formative visus* observed in her.

Before concluding this little memoir, I shall say a few words respecting the name I have given to the fistulæ just described. I have purposely selected a denomination thus undefined, lest I outstrip more serious disquisitions. But if ulterior observations should confirm my opinion, or at least prove their continuity with the pharynx, they may be named congenital fistulæ of the

\* Something similar happens in the vaginal canal.

† *Grundriss der Physiologie*. Bd. II. Abth. 2 S. 69.

pharynx, and ultimately united with those which Dzondi has called fistulæ of the trachea, under the common name of congenital fistulæ of the neck.

Finally, I am desirous of calling the attention of medical men and anatomists to a certain matter, which I must not speak of as certain before it be confirmed by many others; for a preconceived opinion may readily corrupt the sight. Whilst investigating the nature of these fistulæ, it seemed to me that in many persons in the region where the fistulæ have been observed, I have noticed one or more discoloured spots, which spots are either rounded and of a pale red colour, or brownish, or like subtle strise of hairs  $\frac{1}{4}$ -1" long, superior in whiteness to the surrounding skin, so as to resemble little cicatrices, but conspicuous only to very sharp sights. After I had finished this little commentary, the illustrious Rudolphi mentioned to me that he had learned from his son, just returned from an extended European tour, that a fistula similar to those described had been observed at Stralsund in a boy, in whom aphonia, epileptic convulsions, and an imminent risk of life followed the closing of the fistula; all of which symptoms disappeared on the restoration of the excretion. On this occasion I cannot avoid referring to the fourth case of Dzondi, in which a fatal termination followed the cure of the fistula.

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ON

CONGENITAL  
FISTULÆ OF THE TRACHEA.

A PATHOLOGICO-THERAPEUTIC  
COMMENTARY.

SCHWETSCHKE AND SON, 1829.

TRANSLATED EXPRESSLY FOR THE  
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## PREFACE BY THE EDITOR.

The Monographs of the celebrated Dzondi and Ascherson "on the vestiges of foetal and embryonic structures persisting in the adult," carefully translated, are sufficiently interesting to entitle them to accompany the beautiful memoirs of Autenreith and Fischer, now in course of publication in this work. Besides illustrating some points of great interest in practical surgery, their perusal, it is hoped, may afford matter for serious reflection on the slow progress of philosophical anatomy in England, Germany, and even in France. The distinguished Dzondi, so eminent as a practical surgeon, appears to have been ignorant, in 1829, of the scientific labours of his illustrious predecessors and contemporaries—Oken, Spix, Goethe, Trevianus, and a host of others; whilst the acute and learned Tiedemann, writing in the midst of all the philosophical anatomy of his day, describes, in his great work on the arteries, the supra-condyloid process of the humerus in man as a certain osseous tubercle occasionally present in the human humerus. Yet, long before the appearance of either of these works, the great doctrine of organization had been fully established—human anomalies having been traced through embryology to that great law—and the domain of the "*Lusus Naturæ*", and of "things wonderful, mysterious, and inexplicable," had been greatly limited. From a total neglect of "original authors" and "Monographs", and from a thoroughly national contempt for theory (involving most frequently first laws or principles), it, without doubt, happens that our own country is generally the last in admitting any "a priori" reasoning in science; but even after making every possible allowance for this national antipathy to principles, it must still startle us to find an English, *nam* a London, anatomist, as late as 1846-7, speak of the same supra-condyloid process in the language of Tiedemann. The philosophic theories here alluded to were, it is true, neither of London, nor yet of English growth—a consideration which must ever influence a practical man—and in their nature they are abstruse, not being adapted to the capability of all comprehensions.

But however this may be, we venture to recommend these and other Monographs (about to introduced) to the attention of the profession, reminding them of the waste of words, of idle cavil, and dispute, which would have been avoided; of the unfounded claims to discovery which never could have been obtruded, had the *original works of original authors* been in their possession; and had they been in the habit of referring to, and studying them, with that attention and care the importance of their contents renders imperative.—*Ed.*

# MONOGRAPH

ON

## CONGENITAL FISTULÆ OF THE TRACHEA

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I doubt not but that most, on reading these pages, will be much surprised that observations concerning congenital fistulæ of the trachea, first spoken of by me, had never been made or mentioned by any surgeons from the most ancient times until the present period. And truly may we wonder that an anomaly so often noticed by one surgeon, should not have been observed by any other during such a series of years. But, however this may be, it appears at least certain that no writer has ever handed down by tradition any thing concerning this anomaly, (congenital fistulæ of the trachea); for although I have diligently searched all the chief writers on pathological subjects, I have found none who notice it. From this view it appears certain, at least, that this anomaly (although, perchance, it may have been noticed by some, which I doubt not,) had never been described or communicated to the public. That it may not be supposed I assert this without just cause, I shall briefly review those authors, and those sources of information, I searched with the intention of finding some mention of this matter, and state what I found. First, I examined the *Literatura Medico-Digesta* of Plouquet,—a very full work, and unequalled in science,—and there, indeed, I found fistulæ of the trachea twice mentioned, by no means congenital, but remaining after the healing of a wound. I afterwards consulted the collections of medical literature by Roth, Burdach, Kresch, Bernstein, and Spreugel, but in none of them did I find any mention of fistulæ of the trachea. I had already examined the pathological collections written by Lieutand, Sandifort, Baillie, Bichat, Cruveilhier, Meckel, and Palleta, but I found that the anomaly of fistulæ of the larynx or trachea had not been observed by them. Next, I turned to the medico-chirurgical Lexicons, commencing with that verbose and copious French *Dictionnaire des Sciences Medicales*. In vain I perused those works published by Barrow, Sue, Blancard, Bernstein, and S. Cooper; nor did I find any mention of it in the works of Lipenius, Mangetus, Haller, Richter, and Langenbeck. At length I looked over the surgical works of the principal authors from the founder of medicine, Hippocrates, “*περὶ σφυγγῶν*”, and that chief patron of the actual cautery, Albucasis, the Arabian, up to the most recent times, but I met with nothing to prove that this fistulæ had either been noticed or cured. Lastly, I searched periodicals, repertoria, and the best medical diaries of ancient and modern times, written in German, English, and French, which my library contains, but without success; nor do any of my medical colleagues, whom I have consulted, remember having observed this anomaly. Such being the case, either accounts of this anomaly are yet concealed in unexamined writings, or, being observed, had not been recorded, or were not at all



known to surgeons; that it had been often present but mistaken for an ulcer of a different nature, appears very probable to me, because the same thing occurred to myself at the beginning, and only after long and repeated observations in the first about to be related, did I at length learn to understand the true nature of the case. Be the thing as it may, however, I delay no longer, as I consider it my duty to communicate those facts to the learned which I have collected by experience, respecting the cure and diagnosis of congenital fistula of the trachea, this opportunity of writing being afforded; and also respectfully to invite those who have observed any cases mentioned by their contemporaries, or read of such in the works of our ancestors, kindly to publish them or communicate them to me. The following will be the plan of the pamphlet:—I shall first relate some cases, from which I derived certain knowledge of this anomaly; I shall then proceed to make some observations concerning the cause of the fatal termination of a case—and finally, I shall explain the symptoms of the anomaly, with a proper method of cure.

*Case 1st.*—C. Schwarz, a woman, æt. 28, the wife of a tailor at Halle, of delicate constitution, came to me in 1821, to request medical advice for a fistulous ulcer of the neck, under which she had laboured for some time. The ulcer was situated in the anterior and left part of the neck, about an inch from the centre of the trachea. During her childhood this swelling had been entirely overlooked, or perchance taken for an incipient scrofulous affection; afterwards, when it sensibly increased in bulk and extended across, it was stimulated by external applications, rubbing with the grey ointment of mercury and plaisters, and was at length opened by a surgeon. From that time a cure was in vain attempted by various remedies, such as injections, ointments, plaisters, caustic, &c. For this reason she requested my aid, and was for some weeks under my care. After various caustics had been tried to no purpose, the fistula was at last healed by injecting "*liquor nitrici hydrargyri*." After some weeks, however, the same swelling appeared in the middle or lower part of the trachea, about the size of a pea, in the region of the thyroid cartilage, and sensibly increased in size. Having made an incision, I examined more carefully the nature and tendency of the abscess, and I now found a narrow fistulous canal, deeper in the region of the incisura of the thyroid cartilage, entering the trachea. I suspected its true nature, though not yet its congenital anomaly. The *liquor nitrici hydrargyri*, being again injected, effected a closure of the fistulous orifice, but after some days a passage again disclosed itself and the flow of mucous continued. When I was preparing to attempt a cure by substituting another remedy and method of treatment, the woman did not return, and I, being about to visit France and England, neglected to attend the case. From this period I ascertained nothing concerning her; but I was lately informed that the woman lived till 1827, and was afflicted with fistula until the day of her death. A post-mortem examination was made, and the fistula found; it was examined by the medical man, but not so carefully as to make him certain, respecting the thread-like canal, as these sinuses are wont to be very narrow. From this case I first became acquainted with fistula of the larynx and trachea, but I did not yet suspect *that they were congenital*.

*Case 2nd.*—A woman, æt. 25, daughter of the celebrated Hebenstreit, who was professor of medicine at Leipsic, of a delicate constitution yet, enjoying good health, married Antou, a bookseller of Halle, and survives him. She consulted me four years ago respecting a small fistulous ulcer, in the anterior region of the neck. A careful examination being instituted, I found the disease in this state: In the middle of the anterior part of the neck, in the region of the incisura of the thyroid cartilage, there was a small round sore about a line in breadth, surrounded by a margin neither red, swollen, or with fleshy edges; little pain was felt on touching it, and some drops of purulent lymph flowed from it upon pressure. A cavity of two or three lines almost round it, upon being examined with a silver probe, shewed little depth. A deeper sinus could not be detected by the probe; nor when a smaller probe was used, could it be introduced into the trachea, on account of the narrowness of the sinus and its oblique direction; but if the nostrils were compressed and firmly closed, the air from the lungs being forced upwards by straining, bubbles of air arose from the bottom of the fistulous ulcer; a convincing indication that the fistula penetrated to, and into, the trachea.

The history, or previous condition of the fistulous ulcer was this: As far as the woman could remember the first years of her life, she always laboured under that fistula; about three years old she recollected having a small circumscribed swelling, lurking, from her earliest infancy, in the place where the fistula now is, and that she inadvertently (probably by scratching with her fingers, on account of the itching, or slight pain, which was palpably increasing) opened the inflamed apex. But she could not tell the time when the tumour opened externally. She remembered hearing from her parents that the swelling was congenital, and that her aunt (her father's sister) and unless she was mistaken, her father himself, laboured under similar fistulas all their lives, neither of them ever being cured. From these facts, which were thus far explained and shewn, it appears that this fistula had entered into the trachea, and that it was congenital; that the tendency was born in her, derived from her aunt and from her father, which often happens. I proceed now to the method of cure. Not only in her childhood, but afterwards also, had external applications and various injections, plaisters and ointments, been tried ineffectually by various medical men and surgeons, and by her father, the professor of medicine himself; the fistulous ulcer always remained unaltered. The prognosis, therefore, appeared unfavourable. Indeed, trusting to the efficacy of a certain remedy which I had used for the cure of fistulæ, and chiefly those abscesses termed "lymphatic," I hoped that this also could be healed. Experience had taught me that the liquor hydrargyri nitrici, made of double strength, was very effectual in the cure of fistulæ and lymphatic abscesses, irritating them by its power, and thus exciting a minor degree of inflammation, and contracting them, it brings strongly together the openings of the fistulæ, and the mouths of the excreting and secreting vessels, and impedes the flow of the humours. The walls of the membranes of the fistulæ being contracted and approximated to one another, and irritated by the inflammatory power of this liquor, more easily grow together, and in this manner are healed. For this reason I injected, by the aid of a small syringe, some drops of this liquor into the fistulous ulcer, on which the sinus was immediately contracted, and the flow of the mucous fluid

ceased; also after about eight days had expired, the whole ulcer was healed by a cicatrix. But in a short time after, about fourteen days, being again called to the woman, I found the fistulous ulcer again open and more inflamed; considering this greater irritation more favourable for a cure, I injected immediately a few drops of the pure liquor hydrargyri nitrici. Whilst I was doing this, the patient thought that she experienced some pain in the trachea itself, which was doubtless caused by the irritation of the fistulous sinus closely adherent to the trachea. The pain was not much increased; neither did more violent inflammation ensue; but after some days the orifice of the ulcer was again closed and healed, and even to this present day remains firmly closed, the white cicatrix being level and small; nor has the woman experienced any uneasy sensation from that time. The thyroid gland on each side appears to swell a little, but the place where the orifice of the fistula was, in the middle part of the neck as above described, does not at all swell.

*Case 3rd.*—The aunt of the matron of whom mention was made in the preceding case, had, from her earliest infancy, a small tumour in the same anterior part of the neck, which afterwards opened and poured forth a mucopurulent fluid, which could not be healed by any remedies; thus to the end of her existence this discharge continued, although occasionally small yet it still continued, sometimes a few drops exuding after a lapse of some days, at other times daily. These two examples are worthy of notice for this reason, that the aunt in the one instance and the grand-daughter in the other, were affected by the same disease, in itself of rare occurrence; so that we cannot deny that the disease was congenital, or that it at least arose from a congenital disposition. And if her father laboured under a similar fistula during his lifetime, which cannot be affirmed for certain, this is in fact the fourth case.

*Case 4th.*—A girl about eight years of age, in good health and not scrofulous, the daughter of Bilarikius, a ransomer of farms (Amtmann), being brought to Halle by her mother in October, 1828, consulted me about a small fistulous ulcer in the left and anterior region of the neck, a little below the larynx. An orifice, resembling the head of a small pin, discharged a little mucopurulent fluid, which was surrounded by no edge or fleshy elevation, but by entire skin not discoloured. The probe did not enter in a straight direction, but when introduced some lines length across, under the skin, in the direction of the larynx or upper part of the thyroid cartilage, it shewed a cavity of the breadth of two lines or somewhat more, and from five to six lines in length, so that the probe almost touched the left part of the thyroid cartilage. According to her mother's testimony, this fistula had been present almost from her earliest infancy; in the first year of her age, indeed, nothing but a tumour was noticed, which opened spontaneously, and could not be induced to heal by any remedies. I recognized a congenital fistula of the larynx or trachea, similar to that which I had cured in a former case, and I hoped that this could be cured in the same manner. The orifice of the fistulous ulcer, therefore, being dilated a little, I injected into the fistula, by means of a small syringe, a few drops of liquor hydrargyri nitrici. When this was done, I asked the girl "whether the liquid burned her"? "A little," she said. To whether the liquid burned internally, she answered, "I know not." Neither in this or in any other case did a cough ever follow the injection, or any other unpleasant sensation. This was done about nine o'clock,

a. m., on the 17th October. About five o'clock, p. m., I again visited the girl and found her well, being occupied with her usual playthings, and without pain; but I learnt from her mother that she had vomited the food taken at twelve o'clock, shortly after, but not the drink of coffee and milk. Since vomiting often follows surgical operations, I considered this by no means of particular consequence, or an evil omen. On the following, and also on the third day after the injection, she vomited her food easily without sickness, but retained the coffee; she was well, and appeared of her natural ruddy complexion, nor did she complain of anything. I imputed this vomiting to an affection of the nerves, and to the irritation arising from a cold which she had probably caught on the journey, and hoped that it would disappear spontaneously. And truly on the following day, the fourth after the operation, the vomiting ceased and her food was retained; but in its place a mild diarrhoea followed, without pain in the bowels or abdominal affection. The abdomen was natural to the touch and without pain, the condition of the skin was normal, nor was there anything in the whole body which foreboded evil. The girl was intent on her usual amusements. On the fifth and sixth day, occasionally four or five times a day, the diarrhoea continued, and the fœces caused suspicion more of a lenteria than a common diarrhoea; although the matter could not be distinctly ascertained, on account of the fluidity of the food she took, which was administered in the form of mucilaginous broth. Mucilaginous remedies, with a thin decoction of Colombo root and a little laudanum, had no effect at all; and although the girl complained of no morbid affection whatever, she never left her bed the next day, but sitting up in it, spent her time in play. Besides the remedies just named, dry warm poultices were placed on the abdomen, and a mucilaginous enema was given. The face of the girl always remained of a florid colour. During these three days her appetite was impaired, but her thirst was not much increased. During the whole of this time the external orifice of the ulcer remained open, and a little pus was discharged; the surrounding margin had a slightly livid appearance, chiefly in the place where a few drops of the injected liquid had flowed out, but no vestiges of pain, swelling, or inflammation ensued. The pulse was unchanged, probably a little quicker and feebler than natural. The skin was a little dry, but not abnormally warm. The tongue was slightly white. This was the state of things on the 23rd October, the seventh day after the operation. On the morning of the following day, about seven o'clock, symptoms of apoplexy suddenly presented themselves; and a neighbouring doctor, on account of my absence, was called in to prescribe some remedies, but could not administer them to her in a dying state, since life was quickly extinct. Examination of the body was refused. What, then, was the cause of this sudden death? The question is indeed very difficult to answer! It must be attributed to a cold, for no symptoms of scorific affection were at all present. Nor was the termination that of the preceding disease, for the girl always enjoyed good health, at least for some months before she came here. It therefore remains for us to search for the cause of death in the method of treatment, which can be done with greater appearance of truth, the quicker the symptoms of the disturbed functions of the abdominal nerves followed after the injection was made. It is evident from this, that the liquor hydrargyri nitrici could not be alone blamed, because I have frequently injected a larger quantity, an ounce or

more, into lymphatic abscesses, fistulous ulcers, &c., without ever observing severe symptoms, not even more intense inflammation. How, therefore, could the injection of some five or six drops of liquor hydrargyri nitrici into a small fistula be the cause of death? For this reason probably: The pneumo-gastric nerve or its branches, or small filaments of that nerve, or of some other connected with it, were irritated by that liquid, so that it first produced vomiting; and afterwards, the nerve being affected by paralysis, was the cause of the diarrhœa; and at length, when the paralysis passed on to the other abdominal nerves, it became the cause of sudden death! That it was an affection of the nerves, and that it arose from the injection, seems evident from this circumstance—that the symptoms (vomiting) followed immediately after the injection. But it is clear from the symptoms that the abdominal nerves were chiefly affected; and it is known from anatomy, that the pneumo-gastric nerve passes through that part of the neck. As I feel how imperfect the opinions are which I advance, I invite in a friendly manner, nay I ask and beseech, all those skilled in medicine, kindly to afford me more information, and communicate their opinions either publicly or privately.

The symptoms of this anomaly, therefore, are a swelling in the region of the larynx from infancy, neither painful or red, nor always disappearing on pressure, sensibly increasing in circumference. Sometimes when the red summit itches, it is opened either spontaneously or by art, discharging a muco-purulent fluid, in small quantities, from a narrow round orifice. A very narrow oblique sinus leads to the trachea, with difficulty being explored by the probe, in the region of the incisura of the thyroid cartilage; it is never cured spontaneously, and unless attended by art, it remains during life almost in the same state. Bubbles of air arise from the orifice when air is forcibly sent from the lungs into the trachea, the nostrils being closed. It is not clear that this symptom is always present, chiefly appearing to occur in females. It remains for me to add some facts concerning a safer mode of curing fistulæ of the larynx, or trachea. The method of cure which I propose is double:—First, a mechanical one. Let the fistula be cut into, and opened even to that place where it enters into the larynx or trachea, and there the sinus, lined with its mucous membrane, should be wounded in a mechanical manner by rubbing or friction; whilst a cylindrical instrument, having a rough surface, is quickly turned about in the sinus, or rotated between two fingers, by doing which obliteration of the sinus will doubtless follow. Another plan is this:—After the sinus of the fistula is cut into and opened, even to that place where it enters into the larynx or trachea, a little concentrated sulphuric acid, or potassa fusa, should be inserted into the sinus with a thin instrument, by means of which the mucous membrane will be destroyed, and the cure effected by adhesion. The liquor hydrargyri nitrici does not destroy the mucous membranes, hence it happened that the repeated injection into a laryngeal fistula, as in the first case, was of no avail. Besides these cases, two of ulcers in the region of the trachea occurred to me; one was cured by the liquor hydrargyri nitrici. As, however, I am not certain whether the fistula was one of the larynx or trachea, I shall pass it over in silence. The other was not cured, and appears of the same nature, but was not then examined with sufficient care by me, as the girl did not live at Halle.

*I shall reserve this case, probably, for another occasion.*

SUCCESSFUL CASE  
OF  
CÆSARIAN OPERATION,

AND ITS  
COMPLETE RECOVERY;

WITH SUBSEQUENT PREGNANCY, ABORTION, AND  
FATAL TERMINATION.

BY  
JOHN GOODMAN, ESQ., M.R.C.S., E.  
MANCHESTER.

WITH THREE ILLUSTRATIVE DIAGRAMS.

PREPARED EXPRESSLY FOR

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## CÆSARIAN OPERATION.

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*The history of the Cæsarian operation is exceedingly unfortunate in the annals of obstetric surgery. The rescue of an individual from its dangers is an event less frequent and less likely than from the casualties of any other department of operative surgery, and deserves to be especially recorded as an encouragement, both to the surgeon and to those who may be placed in a situation to require so formidable a mode of assistance.*

The language of the most celebrated writers on Obstetrics is pregnant with fears and despondencies upon the success of this important operation, especially in respect to Great Britain, so far as regards the life of the parent. True it is that many able authorities boldly recommend the performance of this operation, but the encouragement vouchsafed savors more of a theoretical and experimental than of a practical character. I well remember when a student at the London University, under the late justly celebrated Dr. Davis, who had the high honour of introducing into the world our present youthful and beloved sovereign, that the Cæsarian operation was set forth by him as a last and hopeless resource, and more after the manner of a recipe for the embalming of the body, or as a winding sheet for the enclosure of the dead, than as an operation from which any success could, from past experience, be anticipated. Dr. Blundell says, "To the fœtus the Cæsarian incisions are, it should seem, unattended with danger when performed sufficiently early; but although in these cases the danger to the fœtus is small (if any), it is admitted on all hands that the peril to the mother is extreme." And at page 366 he says, "Every woman for whom the Cæsarian operation can be proposed to be performed, will probably die." He seems to think that the recovery of the mother in the case of Mr. Barlow, of Blackburn, was owing entirely to her vigorous habit; and that the cause of failure in all other cases, must have been in consequence of its performance upon women of broken constitutions—"the subjects of malacosteon"—which of itself generally, if not always, is a fatal disease. Again, at page 364, "Much of the danger of the Cæsarian incisions must, I fear, be ascribed to a cause over which we have but little control; I mean the cachexy of malacosteon." The cases of recovery presented in these pages, will be found to be entirely at variance with such an opinion. I would remark, too, upon the case of Mr. Barlow, in 1793, that I have received information from one of our most respectable and highly talented surgeons, that Mr. Howarden, of Wigan, and afterwards of Southport, now retired from practice, was present at this so called Cæsarian operation, and was wont to say, "That it was an excellent case of its kind, but not a Cæsarian

*section* ; for the foetus having previously escaped through a rupture of the uterus during an expulsive pain, the uterus was therefore intact by the operation. There was also abundance of space in the pelvic outlet, and no occasion for the Cæsarian section at all." This case was therefore improperly designated. Dr. Hull, of Manchester (says Mr. Howarden), often remarked, that "this case ought never to have been published as a Cæsarian operation." We now come to the facts connected with this operation, after they have been obtained from the most careful research and most diligent scrutiny. Dr. Blundell says, "In England, should any operation fail, it is not very likely to remain concealed, owing to the glorious liberty of the press;" therefore we may expect, from details which have been carefully gathered, not many cases of failure, and none of recovery, have escaped detection. Dr. Merriman gives a list of cases in which this operation has been performed in the British islands, which, with some additions subsequently obtained, are to be found in the following table :—



## Table of the Caesarian Operations, performed

No.	Hours in Labour.	Date.	Died Mother.	Died Child.	Recovered Mother.	Recovered Child.	Operator.
1	12 days	1739	...	Dead	Recovered	...	Mary Dunnally
2	5 days	1793	...	Dead	Recovered	...	Mr. Barlow
3	...	"	...	Dead	Recovered	...	Mr. Knowles
4	...	1845	...	...	Recovered	Alive	Mr. Goodman
5	7 days	1737	Dead	Dead	...	...	Mr. R. Smith
6	...	"	Dead	...	...	Alive	Professor Young
7	...	"	Dead	...	...	Alive	Professor Young
8	...	1740	Dead	Dead	...	...	Dr. White
9	...	"	Dead	Dead	...	...	Mr. Wood
10	24 hours	1769	Dead	...	...	Alive	Mr. Thompson
11	2 days	1774	Dead	...	...	Alive	Dr. Cooper
12	12 days	1774	Dead	...	...	Alive	Mr. Chalmers
13	...	1775	Dead	Dead	...	...	Mr. White
14	3 days	1777	Dead	...	...	Alive	Mr. Atkinson
15	8 days	"	Dead	Dead	...	...	Mr. Clarke
16	12 hours	1794	Dead	...	...	Alive	Dr. Hull
17	10 days	1798	Dead	Dead	...	...	Dr. Hull
18	2 days	1795	Dead	...	...	Alive	Dr. Hamilton
19	3 days	1798	Dead	...	...	Alive	Mr. Kay
20	...	1799	Dead	...	...	Alive	Mr. Wood
21	...	1800	Dead	...	...	Alive	Mr. John Bell
22	...	"	Dead	...	...	Alive	Mr. Dunlop
23	...	"	Dead	Dead	...	...	Mr. Wood
24	24 hours	"	Dead	Dead	...	...	Dr. Kellie
25	...	"	Dead	Dead	...	...	Mr. K. Wood
26	...	1817	Dead	...	...	Alive	Barlow and Cort
27	...	1821	Dead	...	...	Alive	Barlow & Dugdale
28	18 hours	"	Dead	...	...	Alive	Dr. Henderson
29	34 hours	1820	Dead	Dead	...	...	Dr. Radford
30	19 hours	1821	Dead	Dead	...	...	Dr. Radford
31	6 days	1826	Dead	...	...	Alive	Mr. Chrichton
32	...	1829	Dead	Dead	...	...	Dr. M'Kibbin
33	...	"	Dead	Dead	...	...	Mr. Ward
34	...	1834	Dead	Dead	...	...	Dr. Montgomery
35	...	1843	Dead	Dead	...	...	Dr. Elliot
36	...	"	Dead	Dead	...	...	Mr. Whitehead
37	...	"	Dead	Dead	...	...	Mr. Braid
38	...	"	Dead	...	...	Tws. lvg.	Bailly & Hardy

## in the British Islands, with their Results.

Patient's Name.	Locality.	Where Recorded.
Alice O'Neal	Ireland	Edin. Med. Essays, vol. 5.
Jane Foster	Blackburn	Med. Rec. and Research.
...	Birmingham	Trans. Prov. Asso., vol. 4.
Mrs. Sankey	Manchester	Brit. Rec. of Obstetrics, vol. 1.
Paterson	Edinburgh	Smellie's Midwifery, vol. 3.
...	Edinburgh	MSS. Lectures.
...	Edinburgh	MSS. Lectures.
...	Manchester	Hull's 1st Letter.
...	Edinburgh	Hull's 1st Letter.
M. Rhodes	London	Med. Obs. and Enq., vol. 4.
Eliz. Foster	London	Ditto ditto, vol. 5.
Eliz. Clarke	Edinburgh	Hamilton's Outlines, 339.
...	Glasgow	Hull.
E. Hutchison	Leicester	Hull, p. 67.
...	Wellingborough	Mem. Med. Society, vol. 5.
Isb. Redman	Manchester	Hull's 1st Letter, p. 162.
Ann Lee	Manchester	Ditto ditto, p. 172.
J. Douglass	Edinburgh	Outlines.
...	Forfar	Hull's Letter.
E. Thompson	Manchester	Mem. Med. Society, vol. 5.
...	Edinburgh	Med. Chir. Trans., vol. 4.
S. Holt	Rochdale	Hull's Trans. Band.
...	Manchester	Med. and Phys. Journal.
...	Leith	Ed. Journal, vol. 8.
...	Manchester	Med. Chir. Trans., vol. 7.
A. Hacking	Blackburn	Barlow's Essays.
M. Ridgdale	Ditto	Merriman, p. 317.
Mrs. Lowe	Perth	Ditto, ditto.
M. Ashwell	Manchester	Ed. Journal, No. 148.
M. Nixon	Manchester	Ditto, ditto.
...		Ed. Journal, 1828.
...	Belfast	Ed. Journal, 1831.
...	"	Lancet, 1840.
...	Dublin	Dublin Journal, vol. 6.
...	Waterford	Letter to Dr. Churchill.
...	Manchester	" "
...	Manchester	Manuscript to be published.

It is here shewn, that out of the thirty-eight operations known to have been performed in these dominions, of a true Cæsarion character, only three mothers have recovered, the children, with one exception in the three cases, having died; and strange to relate, in one the operation was performed by a female with an ordinary razor, which throws some degree of doubt upon the whole statement. As before remarked, the case of Mrs. Barlow was not a true Cæsarion section, and the child was also dead in that instance. Mr. Lizars, fearing that the coldness of the atmosphere might, in these cases, be the cause of fatal inflammation of the peritonæum, took the precaution of raising the temperature of the apartment in which he performed the incision to between eighty and ninety degrees Fahrenheit; and Dr. Monro seems to have held the opinion, that the oxygen of the atmosphere may operate as a powerful stimulus to fatal inflammation. Another gentleman supposes that if the access of the air be proved to contribute to diminish the risk of Cæsarion delivery, we might readily diminish it of this danger, by operating beneath the surface of water, the heat of which might be brought to correspond with that of the internal part of the body. But it is shewn in the case about to be related, that neither cold, nor oxygen, nor the exposure of the peritoneal surface to the air, possessed any influence in producing excessive or fatal peritoneal inflammation. In contemplating the only three cases which have recovered in her majesty's dominions, I am led to believe that the very condition of the frame in malacosteon and some other states of debility, are, by the hands of providence, appointed and best adapted for the healing of peritoneal incisions. Cases of healthy individuals can seldom be presented, where stabs or other wounds of the abdomen have occurred without the supervision of very severe, if not fatal inflammation; and yet, after the debilitating influence of ascites, a puncture may be made with perfect impunity. The cases recorded in this paper shew that there is a medium capable of being produced by judicious diet and a placid state of mind, even in that morbid condition termed malacosteon; and amid the deteriorating contingencies of a large manufacturing city, which I conceive to be exactly midway between the inflammatory and the ulcerative, or the phlogistic and the anæmic diathesis, a condition, in which the highly sensitive and inflamed serous membrane will recover from injury, as rapidly as any other texture of the body.\* The following note was sent to me from Mr. Knowles, of Birmingham, in reference to his case, which is recorded among the successful ones in the table:—"In reply, sir, to your communication of the 20th instant, I beg to inform you that mine was a genuine Cæsarion case, operated upon at the full period of utero-gestation, and with perfect success. The mother lived five years afterwards, when she died of pulmonary consumption; her husband died of the same disease about two years

\* In the operations for extirpation for diseased ovaria, Dr. Clay, in similar operations, regulates the heat of the apartment to about from 70 to 75.

previously. The child, which *was very delicate*, lived about ten months. You will find the case reported in the fourth volume of the *Transactions of the Medical and Surgical Association*. *I took no small degree of trouble, at the time, in investigating the various recorded cases of Cæsarion operation, and felt myself warranted in coming to the conclusion that mine was the first successful case* that had occurred in this country. Mr. Crosse, of Norwich, in his retrospective address, in the fifth volume of the same work, seems to be of the same opinion." I have perused the account of this case, and find it to be an extreme case of malacosteon, and almost a facsimile of the one hereafter described. I now proceed to relate the case of Mrs. Sankey, the subject of this memoir, whom I have known, and attended in a medical capacity, for many years. She was the mother of three living children. I have attended her during confinement, when the pelvis was unchanged in form, when her labours were easy, and accompanied with little trouble and danger. The first time my attention was drawn to the decreasing size of the pelvic cavity was about five years ago. At that time the antero-posterior diameter of the pelvis was reduced to about two inches; and after consultation with one of my medical brethren, it was deemed necessary to effect delivery by the operation of craniotomy, which I performed, and she did well. Her decreasing stature, &c., enfeebled health, as well as the form and condition of the osseous system, plainly declared that she was labouring under mollities ossium.

By a judicious administration of various tonics and other remedial agents, she regained a moderate degree of health, and a strict injunction was laid upon her not again to become pregnant. Forgetting, however, this advice, probably supposing that her regained strength would enable her with safety to pass through the trying ordeal of child-birth, and in spite of this strict injunction, she again became pregnant, and advanced through all the various stages of utero-gestation to the extreme period of pregnancy, without informing her medical adviser.

On the evening of the 19th November, 1845, I received the first intimation of her arrival at the full period of pregnancy, and my immediate attendance was particularly requested. Upon my arrival I ascertained that uterine pains had already commenced, which became rather severe about eleven o'clock. On examination, per vaginam, I perceived that the contraction of the pelvis had already assumed a most formidable character; the promontory of the sacrum having borne down upon, and considerably decreased, the antero-posterior diameter. The acetabula were forced inwards and upwards, in the direction of the sacrum, and the tuberosities of the ischium were actually brought into apposition, but slightly separated again at the point where the rami of these bones communicated with the pubis; producing, with the posterior portion of the outlet, the form of the figure 8.

The principal passage was discovered to be situated superiorly,

between the promontory of the sacrum and the converging ossa ilia; and its greatest diameter from one projection of the bone to another was not more than one inch and a quarter; the least, not more than one inch; and these could only be reached by the finger with the greatest difficulty. The os uteri could not be touched by any manipulation. The remaining passage was contracted to about three quarters of an inch; and the external outlet was also considerably diminished by the junction of the ossa ilia, as will be seen upon reference to the accompanying diagram. Having fully explained to the husband the true nature of the case, and impressed upon him the utter impossibility of effecting delivery by the natural means, and that the only chance of saving the life of either the mother or the child was by resorting to the Cæsarian section, I suggested the propriety of procuring a second opinion for the purpose of corroborating my statements, and Dr. Radford was accordingly fixed upon.

Upon Dr. Radford's arrival, Mrs. S— had been in strong pains for three hours, and after the necessary explanations, he fully coincided with me as to the necessity of the operation. After due preparations had been effected (in the accomplishing of which I have to thank him for much kind assistance), I proceeded to make the necessary incisions, about 3 a.m. The outer integument was divided by an incision of about nine inches in length, passing a few lines on the left side of the linea alba and umbilicus. This being effected, the uterus was freely and fully exposed, and I immediately made an incision in its walls to the extent of the former opening; the margin of the placenta was ascertained to correspond with the incisions. Dr. Radford seized the infant whilst I dislodged the head from the uterine cavity; and thus a fine living child was preserved from certain death.

I proceeded to remove the placenta as rapidly as possible, and by moderate pressure, succeeded in reducing the uterus to its proper locality; at the same time carefully guarding against the protrusion of the intestines into the uterine cavity.

The disarranged intestines were restored to their normal position by Dr. Radford, whilst, with the interrupted suture, I closed the external wound, without attempting the application of any ligatures to the uterus. It is scarcely necessary to state, that the ordinary dressings of adhesive plaister and bandage were applied. In an hour or two it was perceived that a portion of intestine protruded between two of the sutures, which was immediately and carefully reduced. Ordered Mucilag: acaciæ, capiat .cochl. 2 vel 3 magn. ter in dies. R. Ext. Hyoscy: 10 gr. hora somni sumend. After this administration, the patient became more than ordinarily composed. On the following day the symptoms were by no means severe, the pulse being 90, tongue clean, skin moist, and the urine evacuated; had some sleep, and the infant was doing well. On the 21st no alvine evacuation had occurred, but there was vomiting of a black and coffee-coloured fluid. An enema of spir: terebinth: and gruel

was ordered to be administered through the œsophagus tube, and introduced as far as the sigmoid flexure of the colon. On the 22d, the bowels not having responded, and the vomiting still continuing, ordered R. magnes: sulphatis, six drachms; magnes: calcin: two drachms; tinct: card: comp: one drachm; aq: cinnam: three ounces; m. capiat cochl: magn: tertia hora. Repet: pulv: vespere. To our great satisfaction these remedies induced a copious evacuation, and the vomiting ceased.

On the 23d the patient's state was apparently satisfactory, but the wound was discovered to be completely open, owing to the giving way of the sutures; and the peritoneal covering of the intestines lay open to the extent of six or seven inches, being exposed to the action of the atmospheric air. The integuments were so thin that reunion by suture was impossible, and the part was therefore simply dressed with spread lint and the Empl. resinæ. It appears extremely strange that no constitutional disturbance, except of a very transitory nature, was induced. In consequence, however, of an attempt to approximate the edges of the wound, and the necessary destruction of some adhesions already formed, the pulse for a few hours rose to 118 or 120, but in the evening was again reduced to 90. A moderate degree of inflammation having ensued, on the following day they were covered, and matted together by effused plastic lymph. This latter was speedily converted into granulations, forming a level and cicatrizing sore of the most healthy character, the edges of which were brought together and dressed by strong adhesive straps, compress, and bandage. Ordered, pulv: opii  $\frac{1}{2}$  gr., confect: arom: grs. ix. ft pil: ii, hora somni sumend. On the 25th the pulse was 92, and the patient progressing favourably. Ordered, milk, sago, arrowroot, &c.: Rep: mixt: mag: sulph: The infant was also doing extremely well, a wet nurse having been procured. Rep: extr: hyocsy: grs. x., h: s. Complaining of a cough, the patient had the following mixture, R. tinct: camph: co: three drachms; syrup: rhead: four drachms; mucilag: acac: two ounces. Capiat cochl: min. tussa urgente. R. morph: acet. gr.  $\frac{1}{2}$ ; ext: passav: gr. iii; m: ft: pil: capiat, quaque nocte sumend: Mitte vi. Continue the mucilage and repeat the enema.

26th. Pulse 88; tongue clean and appetite improving; ordered chicken broth, from a chick stewed for two hours in a muslin bag. Aphtha began to appear. Continuentur remediæ—R. Sod: bor: three drachms, Mucilag: three ounces and a half; Syrup: rhead: half an ounce; paululum subinde sumend.

The patient continued to improve until December 6th, when being ordered to take wine and water, she unfortunately partook of some draught porter, and on the following day excessive flatulence and distention of the bowels ensued. By the force of the distention the dressings were torn away, and the newly healed sore itself was ruptured to a considerable extent; the granulations were destroyed, and worst of all, a new portion of bowel protruded through a fissure in the sore from beneath the left iliac region. This portion of bowel was ascertained to be so distended, and inflamed by ex-

posure to the atmosphere, that it was impossible to reduce it to its proper locality. Symptoms of strangulated hernia presented themselves, vomiting again commenced, the bowels ceased to respond to the action of the enema or haustus, and the pulse rapidly increased. The patient's life now becoming an object of deep anxiety, a puncture was made into the distended bowel, with the object of relieving it of its tumidity. The result was unsatisfactory; nevertheless what art was unable to effect, nature speedily accomplished. During the day a quantity of fæcal matter had issued from one of the disturbed intestines, apart from the situation of the puncture, which was discovered on dressing the wound on the following day, and which formed the commencement of an artificial anus. By this means a considerable quantity of flatus and fæces were discharged, and the patient obtained immediate relief; the protruded bowel becoming of a deep red colour in twenty-four hours, and in an equal space of time was matted by coagulable lymph to the other intestines, again forming a level and cicatrising sore. From this period the patient gradually progressed towards recovery; her pulse being 84, her tongue clean, and she herself being in excellent spirits. The bowels, assisted by the injections, which were daily administered, began regularly to obey the demands of nature; and there appeared every prospect of future success, both as to the healing of the original wound and the restoration of the patient's health.

December 12th.—Mrs. Sankey continued her night pill up to this period. The wound, on this day, was reduced to about four inches in length by two and a half in breadth. Pulse 78, tongue clean, and appetite good. Continued the enema. Patient progressing favourably. I cannot here avoid bearing testimony to the great calmness and composure of mind displayed by Mrs. Sankey during the operation, and throughout the whole period of convalescence. It was quite evident that she possessed an inward tranquillity in the hour of extreme danger, which is not the common lot of humanity. Her fortitude was perfect. In the anticipation of speedy dissolution, she awaited the king of terrors with a triumphant smile, her trust and confidence being placed in Him in whom alone there is any hope when friends fail—the last sickness arrives—the world recedes—and the curtain of eternity begins to be withdrawn. I state without hesitation, it being my firm conviction, that the tranquillity of the pulse and frame, during the whole period, was entirely to be attributed to the peace of mind enjoyed by Mrs. Sankey. So far the patient progressed very favourably, but a most formidable obstacle to her complete recovery was now ascertained to exist, especially with regard to her feelings, in the untractable state of the artificial anus. To effect the speedy union of the sides of this opening, every effort that could be suggested was tried, but without avail. The edges of the orifice were pared, and brought into direct apposition by strong adhesive plaister, procured at the Infirmary, and supported by an excellent bandage. But invariably, on the following day, the plaister was found to be retracted under the bandages; the edges of the artificial anus

separated, and to the annoyance of the patient, a considerable quantity of fæces were discharged, excoriating every portion of the cicatrising sore with which they came in contact, producing not only much unpleasantness, but also pain.

This subject now began to prove the only one of interest, and I suggested that instead of the adhesion of the plaister being depended upon, a broad strip or two of strong plaister should be passed entirely round the patient, so that each extremity should terminate with, and upon, the separate edges of the orifice. That upon the outside of this plaister should be spread some common pitch, and that a plaister of pitch should also be used to draw together, and unite, the two terminating ends of the plaister; and thus maintain in apposition, by the firm adhesion which this substance affords, the edges of the artificial anus. This method was adopted, and for twenty-four hours effectually fulfilled the object intended. No fæcal discharge had occurred at all, when the dressings were removed; but the patient expressed a strong antipathy to the pitch, and it was discontinued. The entire wound was now healed, with the exception of the artificial anus and the excoriations produced by fæcal discharge. The argent. nitrat. was frequently applied to the sore, and it was suggested by Dr. Radford that a square compress, or pad of thick caoutchouc, beneath the bandage, should be used to prevent the flow of fæcal matter. This was tried for several successive days, but invariably failed; a variety of other methods to effect this purpose were also adopted, but all proved more or less useless. At length it was suggested by Dr. Radford that the artificial anus should be left open and unprotected, and all dressings were accordingly discontinued. On being thus left to her own resources, the patient found that at least one pint of fæcal matter exuded in the space of an hour and a half; she immediately took the treatment into her own hands, and drew the edges of the opening together with adhesive plaister. Considering that it was time that some method should be resorted to which would effectually arrest the discharge of fæcal matter, or we should altogether lose our credit in the estimation of our patient, I proposed the following:—Let the edges of the wound be again touched with the nitrat. argent.: let two straps of adhesive plaister, made of strong cloth, be passed round the body of the patient, so that their terminating edges may reach just as far as the edges of the wound; let a bandage of common calico of five inches in breadth be made, with proper hip gussets, so as to reach entirely round the body of the patient, to the same length as the adhesive plaister; let four or five buckles, or straps, be attached to the termination of the bandage, so that it may be employed to draw the edges of the wound together; let the terminations of the adhesive plaister and of the bandage be sewed together by a few running stitches, that by drawing together the extremities of the bandage, the plaister may be drawn simultaneously, and with it the skin and edges of the wound, which are adherent beneath. A small portion of lint was placed upon the artificial anus; the straps were tightened; and the edges



of the wound were, by this means, brought into perfect apposition ; and on the following morning I had the satisfaction to observe the *entire absence* of fecal matter. The straps were now slightly loosened ; the lint removed, the sore washed by a small sponge and water, and a fresh portion applied ; the straps were again tightened, the edges being still in apposition, and this state of things was ascertained to be permanent. Week after week a diminution was observed in the amount of fluid which escaped upon any considerable movement of the patient (who never went down stairs), and so satisfied was the patient with the efficiency of the bandage, that she continued to wear it to the period of her death ; and at the end of twelve months not more than half a teaspoonful of a serous fluid could be discovered. From the exceedingly propitious result of this case, I cannot resist the opportunity of recommending this contrivance in all cases of a similar nature ; it may likewise be adopted where it is intended to dispense with the suture, and especially in all cases of abdominal wounds, either from accident or surgical operation, in which it will prove a powerful adjunct to the ordinary sutures, if it do not render their employment entirely unnecessary.

The infant continued in excellent and vigorous health for several months ; she was named Julia Cæsaria, and, together with her mother, occasioned no small sensation when making her appearance at public worship. On the 27th of the following June, however, she became the subject of a very severe bowel affection, which prostrated her so suddenly, that she was placed beyond the reach of medical aid, before the arrival of her medical attendants. She died in two or three days after her first seizure, being seven months and a few days after her extraordinary entrance into the world. "*Nemo mortalium omnibus horis sapit.*" It is deeply to be regretted that, in this case, the extirpation of the ovaries, or Fallopian Tubes, was not performed, for, in spite of all the admonitions offered, the ties of nature, the religious obligations of marriage, and the solemn duties of connubial life, combined with the thorough conviction, that an organ so mangled and incised, could not again perform its natural function, overcame every remonstrance, and information was received, on the 25th of last September, that Mrs. Sankey was again pregnant.

At this time the catamenial flow had ceased for two months, but there was no enlargement of the mammæ, or change in the areola of the nipples ; no morning sickness was experienced, and there existed no perceptible change in the desires of the stomach, or in the organs of sensation ; still there was a progressive increase in the size of the abdomen, and a feeling on the part of the patient that she was decidedly pregnant. On seeing her, I requested that a second opinion might be obtained, as the case was one which demanded a consultation. I mentioned several gentlemen of high standing in this town, but Mrs. Sankey refused to allow any one to visit her but my respected colleague, Mr. Close ; and the mode of treatment we pursued was adopted in consequence of the follow-

ing considerations:—Here is a valuable member of society, and a bright ornament of the Christian community; a devoted wife, and a tender mother to three children, who all, as yet, require her watchful care; in addition to whose domestic value, properly to appreciate her life, it would be necessary to consider the extensive influence of a Christian mother in all its moral bearings on society; and in order to preserve the life of this mother, what must be done? If she advances to the full period of pregnancy, no prospect of life, save to the infant, is afforded, except by the bare chance of escape offered by a repetition of the Cæsarian operation; and in considering the practicability of thus saving her, when we reflect upon the previous wound, the matting together of the whole mass of intestines in the vicinity of that wound, and the impossibility of ever effecting an incision through such a structure without inducing the certain death of the patient, all ideas of this operation disappear, and all such intentions are immediately negatived. But the case is drawing nearer and nearer to a close—in another month or two the size of the fœtus will be so much increased, as to render its escape impossible by the contracted pelvic passage, and the operation of craniotomy is altogether impracticable. Not an hour must be lost—either abortion must be induced, or the mother must necessarily perish. But abortion involves the destruction of another life, which is thus placed in competition with her own; if, at this early period of pregnancy, it can be said that two lives are placed in competition. The existence of the fœtus, however, is but, at the most, a probability, and by no means certain; besides, who can decide, if actually existing, that it is not encephalous—or a monstrosity—an idiot, or deformed. Supposing, however, for the sake of argument, that a genuine, perfect, living fœtus exists, which of these two shall die? Shall the mother, whom we have known, and seen, and esteemed; or shall her offspring, which has not perceived the light of day, which has not been involved in the troubles and sorrows of humanity, nor been bound by the bonds of kindred or the affections of social life, and has never experienced the fear of death? We could not hesitate—the laws of society—of social economy—of all animated nature, would respond as with one voice! Mathematical science would not experience any difficulty in the solution of this problem—the laws of our country, the teachers of medical jurisprudence, the maxims of our lecturers on midwifery, together with the ordinary usage of the profession, all with one consent declare in favour of the more valuable life. The second question which occurs is the following:—viz., What is my duty as a professional man? Shall I, as such, use my art for the relief of the afflicted, for the preservation of life, and for the prevention and cure of disease only, for which I have been instructed; or shall I assume the part of *judge* of the thoughts, intents, and actions of my fellow-creatures? Am I thus recognised by the eye of the law? No! My requirements are simply and sedulously to fulfil the duties of my profession, and to appear in the witness box to give evidence, when called upon. Suppose an individual had been engaged in highway

robbery, or in any civil commotion, and that in the affray he had received wounds of a most serious nature, what is the duty of a medical man? To dress the wounds, or to sit as judge over the culprit and say, "You received these wounds when transgressing the laws of your country, and therefore you may die, for I pronounce you unworthy the benefits of my assistance?" Shall I then say, "Mrs. S., you have been fully informed of the consequences of this affair; you have proceeded with the certain knowledge that loss of life would be the result, and therefore you must die; we will preserve the unoffending foetus, if we can!" This was not the case; Mrs. Sankey had experienced as complete a recovery of both mother and child as ever was witnessed, and had undoubted reason to estimate the future from the experience of the past; and if any one, under such circumstances, dared to risk the result, her conduct rested between herself and her Maker, for there is no human law yet promulgated to restrain such a course. One question yet remained to be solved, and upon which, in my opinion, doubt or hesitation could alone arise. Before deciding the question of the comparative value of human life, it has occurred to me since the termination of this case, to enquire whether it has yet been established that we possess the authority, or power, to take away life at all, either foetal or parental. Has the authority to destroy that life, which man cannot give, been committed to him by the great Creator of all things? The laws of our country take away the life of a murderer with perfect justice, for the word of God expressly declares that "he who sheddeth man's blood, by man shall his blood be shed." The soldier rushes into the battle-field, and, fired with martial ardour, mows down his fellow mortal as the grass of the field, and deluges the earth with his brother's blood. This accords with ancient custom; but does it sit easy on his conscience in cooler moments? The householder sees the midnight marauder within his domain; he knows that his gold, his goods, his life, are the objects of the ruffian's desires; in self-defence he fires upon him, as he stealthily enters his apartment, and the robber falls and expires. The usages of society, as well as the laws of our country, declare this man justified in his deed. But what says the word of God? Man may not *live* according to it, but he *must die*, and he cannot escape the conviction that he must be judged by its precepts, and be eternally rewarded or punished, according to its decisions. Who possesses the right to usher into the presence of his Maker that life "*whose members were all written in his book, before as yet there were any of them.*" Such solemn thoughts as these would, at least, induce a professional man to pause and meditate, ere he administers the dose that is to prove destructive to human life.

Having, at length, determined upon the course to be pursued, we directed, at first, drachm doses of *Secale Cornut*: to be administered daily, and afterwards 20 grains of the same, at more frequent intervals. On the 28th of September we commenced the administration of the *Infus: sabinae*, in gradually increasing doses, beginning with six grains; this was continued until the twelfth of

October, when half-drachm doses were administered, combined with the same quantity of *secale cornut: ter in die*. These measures, with the *pil: aloes: c: myrrh* as an aperient, formed the method of treatment until the 29th of October, at which time Mrs. Sankey, experiencing no change in any respect, entreated us to desist from any further attempt. In consequence of our inability to detect any symptom, by which to determine that the desired action of the remedies employed had taken place, we abstained from the further administration of remedial agents, with the exception of the *pil: aloes: c: myrrh*, as an occasional aperient. After this period our patient remained in tolerable health and spirits, and continued as free from the occurrence of uterine pains, weight, or unpleasant feeling, as since the commencement of the treatment, until the morning of December 7th, which was more than a full month after the discontinuance of these measures. On this day, being summoned to attend, I discovered that during the night Mrs. Sankey had aborted a fetus of about two months growth, at which both the patient and myself were well pleased; and, with the exception of some vomiting, she continued to progress favourably for two or three days. The placenta, however, was delayed, and although no hæmorrhage of any moment occurred, anxiety was experienced on this account; it was detected protruding from the os uteri, from which it was impossible to remove it. Ordered *Sec. corn. two drachms aq: fervent: three ounces; ft: infusum, stat: sumendus*; and, for the sickness, a saline mixture was ordered to be taken during effervescence. The *secale cornutum* was repeated on the following day, but during the interval many attempts were made, both by manipulation and instruments, to remove the placenta, which was now lying impacted in the brim of the pelvis. On the third day I was enabled sufficiently to lay hold of it, so, as by very strained exertion, between two fingers used as forceps with the assistance of pressure on the abdomen, to succeed in extracting it entire. This desirable accomplishment produced considerable satisfaction, for Mrs. Sankey was already beginning to suffer from the fœtid and decomposing condition of the retained placenta.

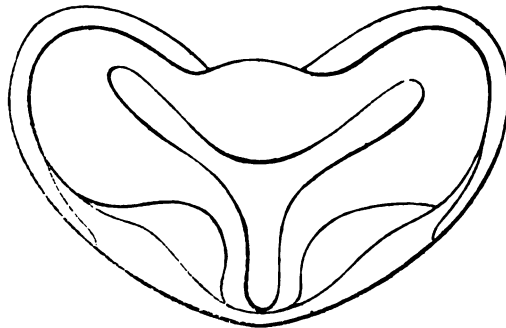
Some febrile action was now observed in the system, and even typhoid symptoms were, in some measure, anticipated; and, after the removal of the placenta, the patient complained of slight tenderness in the region of the old wound. The hæmorrhage was so slight, that it merely saturated three napkins; the vomiting increased, and a mustard poultice was applied to the epigastrium. Other remedies were also employed, but the patient gradually sunk, exhausted by continual vomiting, and the shock of parturition. She died on the 12th of December, and on the evening of the following day we made a post-mortem examination of the body.

**POST-MORTEM EXAMINATION.**—On inspecting the body an orifice, the size of a pin point, was discovered in the situation of the original wound, and the linen around it was moistened by about six drops of slightly coloured serous fluid. On opening the abdomen, a general glueing and matting together of the arch of the colon and

omentum to the adjacent intestines (in an area of the extent of eight or nine inches), and to the cicatrised skin of the abdomen, was observed; which, as will be remembered, was developed from, and healed upon, the exposed peritoneal covering of these viscera. Much flatulent distention of the colon existed, and it was fully proved that no Cæsarian section could have been again performed.

The agglutination of the parts, through which the incision must have penetrated, rendered the performance utterly impossible. It would have been necessary (as it was in simply opening the body after death) to have dissected the skin from the subjacent omentum; and the dissection must have been continued, until the whole of the skin under this covering had been completely separated from its adhesions to the smaller intestines; and they, also, would have required separating from each other, before the uterus could have been exposed. Fatal as the case had proved, we could not avoid a feeling of satisfaction that the measures adopted had been directed towards the induction of abortion, instead of reserving the mother for an operation, which would have proved fatal in the very hour of performance. The gall bladder and duodenum were distended with black bile; and the uterus was empty, and considerably congested at its fundus. The cicatrix of the original incision into the uterus was well defined, and there was no adhesion of the fundus to any adjoining viscera. There were no other decided marks of inflammatory action. The opening into the cavity of the pelvis, instead of presenting its proper oval form, appeared as exhibited in the accompanying diagram.

FIGURE I.



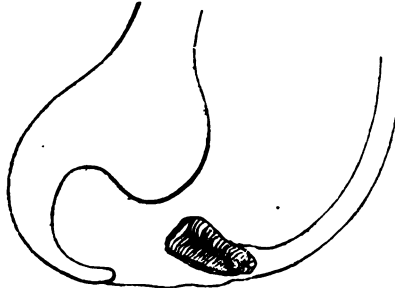
On measuring the pelvis from its right to the left brim of the ilium, it was ascertained to be nine inches in diameter. The acetabula and ossa ischii were pushed upwards and backwards, and the promontory of the sacrum was forced downwards to meet them, leaving a space between the projecting portions of the ossa ischii which measured an inch and a quarter. The remaining space between these bones was only just sufficient to allow the introduction of the fingers, being from half to three quarters of an inch.

## FIGURE II.

EXHIBITS THE PERPENDICULAR SECTION OF THE PELVIS, SHEWING THE PROJECTING PROMONTORY OF THE SACRUM, AND THE CAVITY OF THE VAGINA, WHICH WAS ABOUT THREE INCHES IN ITS PERPENDICULAR AXIS.

## FORM OF UPPER PART OF THE PELVIS,

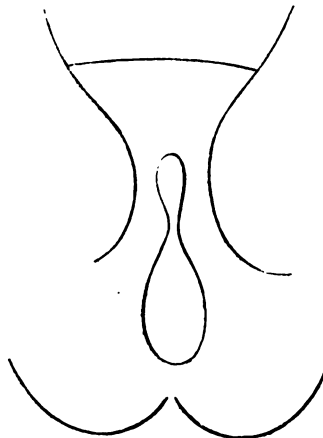
From brim to brim nine inches.



From pubis to the margin of the ribs  $7\frac{1}{2}$  inches; to the point of the sternum only 9 inches.

The pubis and conjoined ossa ilia are also seen projecting inwards and backwards, and thus diminishing the vaginal cavity to  $2\frac{1}{2}$  inches.

## FIGURE III.



In figure 3rd is exhibited the form of the external outlet. The tuberosities of the ischium, joined in the centre. The anterior fissure between these bones was only half an inch in diameter; the posterior opening was laterally two inches, and antero-posteriorly two inches and three quarters in diameter.



**DE GRAAF**  
**ON THE**  
**FEMALE TESTES,**  
**OR OVARIA.**

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## DE GRAAF ON THE FEMALE TESTES.

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The Testes of women differ greatly in situation, figure, size, structure, integuments, and use, from those of men. Their situation is not external, as in man, but deep in the abdominal cavity, on either side, about two fingers' breadth from the fundus uteri; to which they are attached by a strong ligament, called by most anatomists "*vas deferens*," because they believed the semen passed from the testes (ovaria) to the uterus. At another part, and towards the region of the os ilium, they are firmly united to the peritoneum through the intermedium of the spermatic vessels, and the membranes enclosing them; so that the testes (ovaria), secured on each side, and, as it were, suspended, are situated in the *unimpregnated*, nearly on a level with the fundus uteri; but in *pregnant* women, although they somewhat follow the fundus uteri, yet they do not overtake it, and hence it happens that the higher the fundus uteri ascends, the more distant are they from it—occupying a lower situation. The testes (ovaria) are not suspended by a cremaster muscle, as some state, following *Soranus*. They are placed in the interior of the cavity of the abdomen, that they may be nearer to the uterus, and that they may better and more successfully perform those functions for which they were created; as will be proved hereafter. The testes of women are broad and depressed interiorly and exteriorly—in this they differ greatly from the male testes—inferiorly they shew a semi-oval form, or gibbosity; superiorly they appear rather plain than gibbous; so that the testes, divided by their blood-vessels and ligaments, have a somewhat depressed semi-oval figure. Their surface is also more uneven than in males, inasmuch as it here and there projects unequally, by reason of its contents; and, in various places, after some time, it exhibits certain small fissures caused by its tunics being depressed or retracted. Their size, moreover, does not vary much according to age; in puberty and in the bloom of youth they usually weigh half a drachm, so that they attain only half the weight of the male testes, although proportionally broader and more juicy. In those more advanced in years, and in the aged, they become smaller and harder, and, becoming exhausted, they gradually waste more and more; yet they *never entirely disappear*, for we have remarked that the very diminutive testes of aged women still weighed a scruple. Finally, in infants and in the recently born, they usually weigh from five grains to half a scruple: so that in these they are still less than in the very aged, although most anatomists affirm that they are larger in infants, and gradually decrease with the thymus gland. Contrary to the nature, however, of the testicle (male) they sometimes grow to an incredible size, collecting within them so much liquid as to occasion dropsy; many cases of which are related by Schenk, Riolan, and others. The coverings also of these testes differ greatly from the male, for these being external and pendulous, are furnished with many tunics to protect them from all injuries; but the others, requiring no such protection, are invested with

a single proper tunic, called by Galen, *dartos*, which, although of moderate firmness, is with difficulty torn from the substance of the testes, adhering to them as if it were continuous with their substance.

A membrane, originating in the peritoneum, covers the upper portion of the testes, proceeding to them with the blood vessels; and this is the common opinion respecting the covering of the female testes. Some however, who neither by boiling nor any other means have been able to distinguish their proper membrane from the peritoneum, so as to see in them two distinct membranes, agree with us, that the testes are covered by a single membrane only, derived from the peritoneum, and that it seems the thicker by reason of its firmer union with the parenchyma of the organ; which prevents separation from them, or division into several membranes. Since it is of little moment, we leave it free to every one to decide, according to his own judgment, respecting the number of these integuments. On removing the covering of the testes, their somewhat white-coloured substance appears, differing entirely from that of the male testes. For these, with the exception of some membranes and preparatory vessels, are composed of seminal vessels which, if joined together, would exceed in length forty cubits; the female testes are by no means composed of similar vessels, which is the reason that no one, however diligent, has ever in the slightest degree unravelled them. Their internal substance is composed chiefly of numerous membranes and fibrils loosely joined together, in the inter-spaces of which are found many bodies, which are either natural or preternatural. What are always found naturally in the membranaceous substance of the testes just described are vesicles full of a liquid, nerves, and preparatory vessels, which, as in the male, proceed to the testes, creeping through their whole substance and reaching the vesicles; in the tunics of which a very great number of branches, after an abundant ramification, disappear in the same manner as in the yolks of birds' eggs, still adhering to the root of the ovary. We cannot venture to affirm, with truth and certainty, that the lymphatic vessels found in the testes enter their substance. What we only occasionally find in the female testes, and which yet are natural to them, are globules, which like conglomerate glands, are composed of many particles tending in a straight line from the centre to the circumference, and covered with a proper membrane. These globules do not always exist in the testes of the female, as they are only detected in them after coition—one or more, according as the animal shall give birth to one or more young from that union of the sexes. Neither do they strictly resemble each other in all animals, nor in those of the same genus; in cows they are yellow, in sheep red, and in other animals, of a grey colour: besides a few days after coition, they are provided with a thinner substance, and contain in the middle a limpid liquor enclosed in a membrane; which, by the membrane being expelled outwards, a very small capacity or cavity alone remains, which gradually is so much diminished, that during the last months of gestation, they appear a solid substance only; the fœtus being born, these globules are again diminished, and at last disappear.

Finally, the accidental or unusual appearances, namely, those contrary to the natural, which sometimes are observed in the testes of women, are hydatids, stony concretions (*calculi*), *steatomita*, and similar appearances.

#### 4 DE GRAAF ON THE FEMALE TESTES, OR OVARIA.

From what has been said, every one may readily imagine, that the vesicles, or their contents, are the only parts for the sake of which the nerves, arteries, veins, coverings, and every thing else naturally observed in the testes, were formed. Vesalins, Fallopius, Volcherus, Coiter, Laurentius, A'Castro, Riolan, Bartholin, Wharton, Dom. de Marchettis and others, have described these vesicles under various names. Their united testimony would be too tedious to quote; nevertheless, we shall at present produce two of them, that the truth of what I say may be proved. Fallopius, in his anatomical observations, says, "*I have indeed seen in them certain vessels, as it were filled with water or some aqueous humour, at some times yellowish, at other times limpid.*" A'Castro, however, in chapter 4th, book 1st, De Naturâ Mulierum, says, "*The testes internally, besides vessels, have certain sinuses filled with a thin aqueous humour, and like to the serosity of thickened milk or the white liquor of the egg.*" Others, again, call these vesicles—*hydatids*. The celebrated Van Horne, however, in his Prodrômus, prefers calling them *ova*, which term, since it greatly pleases us, we shall hereafter adopt, and we shall call these vesicles "*ova*," as Van Horne has done, by reason of the accurate resemblance they bear to the ova contained in the ovary of birds; for these, whilst they are still small, contain nothing but a certain thin liquor like albumen. That albumen exists in the ova of women, is proved by a very neat experiment, viz. by boiling them, for the liquor contained in the ova of the testes acquires by boiling the same colour, taste, and consistence, as the albumen in the ova of birds. Neither does it signify that the ova of women are not enclosed in a hard covering, or cortex, as usually happens to the eggs of birds; for these are hatched exterior to the body of the bird, that the chick may be excluded; but the others remain to be incubated in the body of the woman, and are protected by the uterus, as by a shell, from all internal injuries.

But before proceeding with these descriptions, let us enquire whether they are to be found in all animals, and how they differ from the hydatids. We confidently assert, that ova exist in all animals, being conspicuous not merely in birds and fishes, as well oviparous as viviparous, but also in quadrupeds, and evidently in woman herself. There is no occasion to prove, what is known to every one, that ova are found in birds and fishes; but likewise in rabbits, hares, dogs, pigs, sheep, and other animals dissected by us. These germs of ova, as is usual in birds, having the likeness of vesicles, appear to the anatomist; being placed on the surface of the testes, they raise up the common tunic, and are so distinctly seen through it as to threaten a speedy exit.

The ova differ from each other according to the nature of the animal; for we have observed, that in rabbits and hares they scarcely equal a rapeseed in size; in pigs and in sheep, they generally attain the bulk of a pea; and in cows, they sometimes exceed that of a cherry. It is to be observed, however, as regards these animals, that besides these ova smaller ones are found, of which some are so minute as to be scarcely observable. Age and condition give rise to the greatest of the ova; in young animals, for example, they are very small, becoming larger with age; after coition, however, they become so changed as to resemble the globules formerly described, one or more

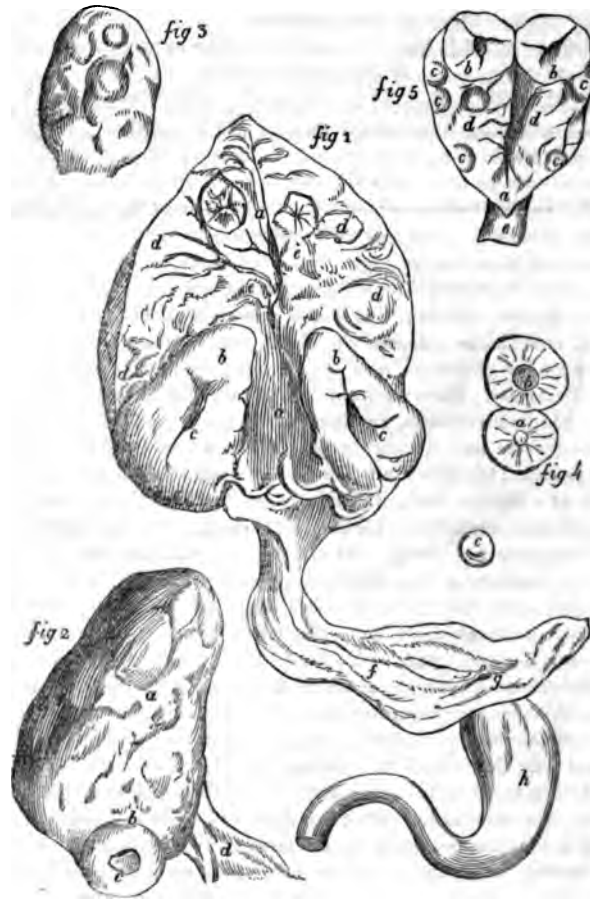
corresponding to the number of foetuses. Moreover, these ova are so numerous, that we have occasionally counted twenty, or more, in one testis, and swollen with a limpid fluid. Believing that similar structure would be found in other animals which we had not dissected, we requested the illustrious Steno, to communicate to us whatever he thought fit of observations he had made in the female testes of animals, which had not fallen under our notice, or which we had not observed in sufficient numbers. With this request he complied, informing us candidly, that he had found these ova (of various sizes), in Does, Indian pigs (Peccaries), Fallow deer, Wolves, Asses, and even in Mules—also in other animals. These observations being compared with our own, amply confirm our opinion, that ova exist in the females of all animals. Should any one ask, what purpose do they serve in very aged persons, and in males, we reply, that they conduce nothing without the uterus, testes, and the other genital organs usually observed no less in them than in fecund animals; that many reasons may be assigned for their sterility, as a vicious confirmation of the organs; the contents of the ova being unsuited for generation; and many others, which may be enumerated as causes of sterility. Since we mentioned above, that in the substance of the testes, or in its membranes, another description of vesicles was found much resembling these ova, it seems proper to explain here the difference between the spurious and the true ova. The vesicle, known by the name of hydatid, consists of a double tunic, the innermost of which, though very delicate, may easily be separated from the external tunic, nor does the liquid contained readily coagulate in boiling. In the true ova, on the contrary, the common tunics can be separated from each other, and the liquor contained coagulates immediately on boiling. Thus in boiled testes we discriminate hydatids from ova—the spurious vesicle from the true; the former we filled with a hardened liquor, the latter with a limpid fluid. To this may be added, that hydatids occasionally hang from the membranous covering of the testis by a pedicle, which we have never hitherto observed in true ova.

The ova described are generated and formed in the female testes clearly in the same way that vitelli or yolks are formed in the ova of birds, viz., the blood flowing to the testes by the preparatory arteries, deposits in their membranous substance matter fitted for their production and nourishment, the remaining humours returning to the heart by the preparatory veins or lymphatic vessels. After the ova of the testes have acquired their natural size, they are next invested with various tunics or follicles; between which, immediately after coition, a certain glandular matter grows much up (appears and increases much, and suddenly swells up); of which matter the substance of the globes just described is composed. We shall endeavour to explain, a little further on, for what end this has been thus arranged by nature. The common use, then, of the testes of females is to generate ova, and to nourish them and bring them to maturity; so that they perform the same functions in women as the ova of birds. Hence they ought rather to be called *ovaria* than testes, since they resemble neither in form or substance the male testes, properly so called; for which reason they were considered by many as useless bodies, an opinion evidently incorrect, seeing that they are, in the highest degree, essential to generation. The singular contortion of the preparatory

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PLATE I.

DISPLAYS THE OVARUM OF THE COW AND THE SHEET AFTER COITION.



*Figure I.—Testis of the Cow.*

a b—The testis opened longitudinally. b b—The glandular substance which, 'after the expulsion of the ovum, is found in the testes, divided through the middle. c c—The cavity in which the ovum was contained, nearly obliterated. d d—Ova of different sizes contained in the ovarium. e e—The blood-vessels proceeding to the ova. f—The membranous expansion of the fallopian tube. g—The opening in the extremity of these tubes. h—Part of the fallopian tube cut through,

*Figure II.—The testicle unopened.*

a—The testicle. b—The glandular substance projecting beyond the testicle. c—An opening in the middle of this projection. d—A portion of the membranous expansion of the fallopian tube.

*Figure III.—Shews the testis (ovary) of the sheep, with the transparent ova not yet impregnated.*

DE GRAAF ON THE FEMALE TESTES, OR OVARIA. 7

*Figure IV.—Shows the glandular substance of the little globes removed from the testis (ovary) of a sheep, as it still contained an ovum.*

*a—The glandular substance of the little globe laid open. b—The place from which the ovum was removed. c—The ovum removed from it.*

*Figure V.—Shows the testis (ovary) of a sheep from which the ovum had been for some days expelled.*

*a—The testis bisected. b—The glandular substance of the little globe, with its cavity almost obliterated. c c—The ova of different sizes imbedded in the surface of the testis. d d—Blood-vessels belonging to the testis. e—Portion of the ligament of the testis (proper ligament of the ovary).*

PLATE II.

SHOWS THE TESTICLE OR OVARY OF THE COW, AS IT USUALLY APPEARS BEFORE COITION.



## 8 DE GRAAF ON THE FEMALE TESTES, OR OVARIA.

*a a*—The testis opened longitudinally. *b*—A very large or mature ovum still contained in the testis. *c c*—Small or immature ova imbedded in the testis. *d*—The membrane of the testis called dartos. *e*—A very large ovum removed from the testes. *f*—The membranous expansion of the fallopian tube. *g*—A very small aperture in the extremity of the tube. *h*—The extremity of the fallopian tube. *i i*—The remaining portion of the tube. *k*—Part of the uterine horn cut off. *l*—The ligaments of the tube, compared in women to the wings of bats.

### PLATE III.

SHews THE TESTICLE OR OVARY OF WOMEN WITH THE ATTACHED EXTREMITY OF THE TUBE.



*a*—The testicle (ovary) laid open longitudinally and inferiorly. *b b*—Ova of different sizes imbedded in the substance of the ovary. *c c*—Blood-vessels in the middle of the testis proceeding copiously from the upper part, even as they proceed to the ova. *d d*—The ligament of the testis uniting it to the uterus (the proper ligament of the ovary). *e*—A portion of the fallopian tube. *f*—The interior or cavity of this tube. *g g*—The opening in the extremity of this tube. *h*—The foliated expansion of the tubes (corpus fimbriatum). *i*—This foliated extremity attached to the ovary.

vessels (blood-vessels) around them proves this; as well as the castration of females invariably giving rise to sterility; although Varro writes that oows conceive though the testes be removed, provided coition takes place immediately after removal. This may be true of males, as to their powers of procreating, seeing that the seminal vessels may at the time be turgid with semen; but not so as to females, who have no such vesicles. Thus the assertion of Hoffman is not in accordance with the truth, as we could shew by many facts, were it not already done so by Wharton. How these ova are fecundated, and how they reach the uterus, will be elucidated in the following chapters :—

DISSERTATION  
ON  
RUPTURE OF THE UTERUS.

BY M. H. N. CRANTZ,  
DOCTOR OF MEDICINE, AND MEMBER OF THE IMPERIAL  
ACADEMY, VIENNA.

*Translated from the Original Edition,*  
1756,

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BY CHARLES CLAY, M.D.,  
MANCHESTER,

EDITOR OF THE BRITISH RECORD OF OBSTETRIC MEDICINE, SURGERY, ETC.  
AUTHOR OF PERITONEAL SECTIONS FOR EXTIRPATION OF  
DISEASED OVARIA, ETC.

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## BIOGRAPHICAL MEMOIR.

M. H. N. Crantz, a disciple of M. Levret and a celebrated medical practitioner, published in 1756 "*Commentarius de rupto in partu doloribus à foetu utero*," a portion of which may be found in the "*Journal de Medecine*." It also appeared at the end of M. Puzos' work, entitled "*Traite des Accouchemens—Paris—1759*." Crantz was also the author of a work which appeared under the title of "*Einleitung in ein wahre gegründete Hebammenkunst—Wien—1756*," in which he gives advice relative to the placenta in twin and footling cases. In 1757 his work "*de re instrumentaria in Arte Obstetrica, cum tribus observationibus, Nürnberg*," was published—which also appeared in the "*Mémoires de l'Académie des Curieux de la nature*"—in which the instruments of the ancients are spoken of. He mentions one Ruffius as the reviver of the forceps in England (an error, as English writers attribute their introduction to the Chamberlens), and objects to the shortness of those of Smellie, considering that French practitioners have considerably improved upon them; he also severely reprobates the use of the crotchet. Other tracts of less importance were also published by him. As an author, Crantz is justly esteemed by continental writers for the boldness and novelty of his views, and for the careful selection of the facts he produces in illustration of them. Amongst English writers, however, he is but little known, though occasionally quoted, and therefore it is presumed that his memoir on the "*Rupture of the Uterus*" will not be otherwise than acceptable, although we have in preparation many others of far greater rarity and value, with which we shall shortly indulge our readers.

It is necessary to inform the reader, that this monograph must be read with some degree of qualification, as in Catholic countries the life of the foetus is considered of equal importance with that of the mother. The Cæsarian operation, therefore, is much more frequently proposed and resorted to, than with us; and it is practised without reluctance in cases, when, in Protestant communities, it would never be for a moment entertained; with us every consideration yielding to the preservation of the life of the mother.—ED.

# DISSERTATION ON RUPTURE OF THE UTERUS.

BY M. H. N. CRANTZ, M.D.

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## SECTION 1.

Rupture of the Uterus is not in itself so rare an occurrence, as we might at first view be led to imagine; and there are very few cases on record, if any, in which medical assistance has been the means of saving the patient's life, when this accident has been ascertained to have occurred. Is rupture of the uterus, therefore, to be considered fatal? Is the opening made by the laceration of the uterine parietes more dangerous than incision through the same by the knife (as in the Cæsarian operation)? If the female with rupture of the uterus appears, from experience, consigned to certain death, what is the cause?

## SECTION 2.

It is evident that wounds of the uterus cannot in themselves be considered as certainly fatal, since there are many cases of recovery recorded after the Cæsarian section; extirpation of the uterus, wholly or in part; laceration; suppuration; and even gangrene; nor are we without statements of patients having recovered after rupture of the organ during labour.

## SECTION 3.

*It is true* that in the records of medicine, there are a considerable number of cases of Cæsarian section, which have terminated fatally. *It is also true*, that lacerations of the uterus, arising from either internal or external violence, are more fatal in their results than the Cæsarian section, for I look upon these lacerations as the true apoplexy of the womb. But *it is not true*, that wounds of the uterus are always fatal, or that the ruptured uterus is absolutely without remedy; for I believe it can easily be proved, that the fatality attending uterine rupture, is not so much to be attributed to the circumstance itself, as to the *want of proper assistance*.

## SECTION 4.

What I wish to advance is not mere speculation, or reasoning on the history of so many fatal cases of rupture of the uterus and Cæsarian sections. We are to suppose that not one of these cases could have been avoided, even supposing help had arrived in sufficient time. If this be true, and we cannot doubt it, how does it happen that accidents of the most serious and dangerous character do not necessarily become mortal? Again, do we not daily see

wounds of the most trifling nature, and which we could not imagine would end fatally, *do so* because they are neglected? I therefore conclude, that a wound is not only mortal when it is of a serious character, and attacks a part essential to life; but that it becomes equally so when it attacks any other part beyond our reach, if assistance is not sought for, or if it is rendered too late.

#### SECTION 5.

Another reason why the ruptured uterus is more than usually dangerous is, that accoucheurs know of no remedy for it; neither are they acquainted with any means of preventing it; nor can they recognise the symptoms of it before it occurs. When such, however, *has* occurred, the dreadful state of the patient soon convinces them of the fact; or which is often the case, without at all understanding the fact the accoucheur becomes alarmed, and sends off for assistance; upon the arrival of which, the patient is generally dead or dying, and he is still in ignorance of the cause. On opening the *parietes* to save the still living child, he finds it has escaped from the uterine cavity, and that the uterus in fact has ruptured. This is all he knows: of the source of the mischief he remains profoundly ignorant. Our ignorance arises from the fact, that accoucheurs who have often witnessed these occurrences, have neglected to inform us concerning the causes capable of producing them; the symptoms which accompany, and the signs which announce this accident. Our profession is at present unable to cure an evil which is not understood, and whose causes and symptoms are equally unknown; and this inability will continue as long as these two points of ignorance remain.

#### SECTION 6.

I am well aware that the Cæsarian operation has been proposed as a remedial measure for this accident. But how can any operation be proposed for an evil, the very existence of which is not suspected? So long as we are in doubt, is there any one who dare, merely on suspicion, open the abdominal *parietes* of a female, already as near death as possible; or attempt to search for a child which has escaped from the womb, before he has become acquainted with the symptoms which immediately precede this accident? Is there any one who would answer on his life, or risk his reputation, for the success of an operation performed in such an extremity? And even if a person could be found rash enough to undertake such a case (which hitherto there has not), would the family connections of the sufferer consent? In a case of Cæsarian operation, the success of which, as far as the operation itself is concerned, is certain, and which the operator is fully aware is the only means of saving the patient, and the only duty he can perform, encouraged as he is by the hope of saving the female and restoring her to ultimate health, even then he has considerable difficulty in procuring the consent of the family. If this be the case, what is it likely to be, when the circumstance is extremely doubtful, and the practitioner can only express the greatest uncertainty concerning it.

#### SECTION 7.

I do not wish it to be supposed that I prescribe the Cæsarian operation, simply because I may shew that in some cases it is indispensably necessary.

What I mean to enforce is, that it ought not to be undertaken for an evil, which is *not well understood*. It would have been much better, if those who have written on the rupture of the uterus, had given us some ideas as to the symptoms that precede the accident, before they enlarged upon the mode of its cure. If they had adopted this wise course, in all probability, succeeding practitioners would have been enabled to recognise the evil at its commencement, or at least in sufficient time to have endeavoured to prevent it. By such means the practice of medicine would have been improved; whereas, on the contrary, we have gained nothing by the detail of their cases. It will, however, be my endeavour to rectify this error, and I flatter myself that I shall succeed.

#### SECTION 8.

**CAUSES OF RUPTURE OF THE UTERUS.**—It is very difficult to point out the true causes of rupture of the uterus. There are many circumstances which can be assigned as causes, but it is very difficult to decide their correctness, and if the true ones have really been observed. How then are we to remove the obscurity which prevails upon this point; for generally those, whose opinions are to be valued, are called in too late, and others are prevented by indolence from recording publicly the result of their observations. The circumstances, which I am about to relate, must not be considered by the reader, imaginary, since they have resulted from actual observation. I shall commence with those causes which relate to the mother. On the part of the mother, then, the causes which usually tend to a rupture of the uterus, are—  
 a contracted pelvis, not allowing the passage of the child through it, either by nature or art; rigidity, and want of dilatation in the os uteri; occlusion of the os uteri by fleshy excrescences; ulceration; schirrus; abnormal form of the uterus; the uterus being too small; unequal dilatation; attachment of the placenta to the lateral walls of the uterus; and lastly, the violent contractions of the womb in time of labour, caused by the difficulty of ejecting the child.

On the part of the child the usual causes are—The head being too large; the head being wedged in the pelvis; the child being too fat and large; the bad position of the child; and the child being convulsed, from whatever cause. To these may be added what I term external causes, which include the rupture of the uterus by a violent spasmodic action in the abdomen of the mother, and from falls, or from too tight compression from stays or bandages over the belly. It has also been recorded, that the violence of midwives, and the means used by them, have frequently occasioned this accident.

#### SECTION 9.

Any of the causes above enumerated, are sufficient to rupture the uterus, but it does not of necessity follow that rupture takes place, although they have occurred; as we know the contrary to be often the case. In difficult labours, for instance, some of these causes may exist without rupturing the uterus. And this arises from the wise precautions necessarily adopted by careful practitioners in severe labours, to prevent such an accident taking place, which existing symptoms may render probable. Rupture of the uterus is, however, extremely probable—in fact appears inevitable, when many of

these are united; and above all it is most likely to occur, when powerful contractions of the uterus are combined with violent convulsive efforts on the part of the child, occasioned by its meeting with considerable resistance in endeavouring to make its exit. In this particular most writers agree. But in what part does the rupture take place? Is there any particular part prone to it, or does it occur in all parts equally?

#### SECTION 10.

Various authors, who have written on this subject, have observed that the rupture of the uterus may either take place at the lowest part of the organ, in the middle, on the right or left side; in the cervix just above the os uteri, anteriorly, posteriorly, or laterally—the rupture sometimes extending to the vagina; in fact the rupture has been observed in almost every part, but least in the fundus. According to most writers the uterus has been merely rent open; in others the rupture has been so extensive, as to separate a part of the uterus from its connections.

#### SECTION 11.

It is evident from the foregoing observations, that there is scarcely any part of the uterus exempt from this sad accident; and that even the part to which the placenta is attached, is as liable to it as any other. I shall next endeavour to point out the parts of the child which are most likely to assist in causing the rupture.

#### SECTION 12.

Which, then, are the parts of the child most likely to assist in causing this rupture? Lamotte mentions two instances, which were observed by him, where the perforation of the uterus was caused by the feet of the child. Albinus mentions another instance of the same. Gregoire, in a memoir read before the Academy of Sciences, says, that he had seen the uterus pierced by the child by the side of the placental adhesion; and also had witnessed an example of the uterus being ruptured by the child at the side to which the placenta was attached. Buzan relates an instance of rupture in the fundus uteri, in which the child's feet penetrated through the rent. Stalpart has recorded cases of rupture, caused by both knees and feet of the child. Heister, Fabri, Hildan, Reiseliuss, Doldius, Dejean, and Saviard, have also observed cases in which the lower part of the uterus and vagina was ruptured by the head of the child. From these observations it will be perceived, that the feet, knees, and head of the fetus, are mostly concerned in the rupture of the uterus. But, are we to conclude from this, that other parts of the fetus are not capable of producing a rupture? And is it not also possible that the uterus may be ruptured, without these means having contributed to it? Without explaining, at present, how this might occur, I will point out the symptoms that immediately precede the rupture, and afterwards the symptoms which shew themselves when the accident has occurred.

#### SECTION 13.

**SYMPTOMS WHICH PRECEDE RUPTURE OF THE UTERUS.**—I shall commence this portion of my enquiry with an observation that speaks little in favour of the

present state of obstetrical science, as it implies both ignorance and indolence on the part of its votaries, viz.—that of all the observations of our most celebrated authors on this subject, not one refers, by the slightest hint, to the symptoms by which the rupture of the uterus may be predicted. And I may farther state, that in almost every instance, the fact of rupture having occurred was first detected by the post-mortem examination. As the female could not possibly have suffered such a cruel termination of existence, without having previously exhibited many strongly-marked and violent symptoms, I have formed the project of collecting carefully all those that are known, so as to enable us to form a just diagnosis, and to attempt a reasonable prognosis of this dreadful accident.

#### SECTION 14.

In a case of difficult labour, where there is a threatening of rupture of the uterus, we find the lower portion of the uterus very tense, and much distended; the vagina on the stretch, and the os uteri high and drawn backward; pains in rapid succession, with scarcely any interval, and in character excessively violent, and during which the labour makes no progress. We also discover at the commencement, or after the labour has progressed a little, some of the causes laid down in the eighth section. By these symptoms we may fairly anticipate that rupture is about to occur. It is still more probable when we add to these, that the liquor amnii is discharged, the pains if possible more violent and still no progress, no hope of delivery, to the astonishment of the ignorant practitioner. The fœtus, in the mean time, presses on the walls of the uterus, at unequal points, with great force; and the female, overcome with uterine pain, can almost point out the seat of the evil. In a moment of pain (some part of the fœtus presenting an obtuse point), accompanied by a fresh effort on the part of the infant to escape, the walls of the uterus give way by a rapid tearing, and the fœtus, wholly or in part, escapes at the rent; more particularly at that part of it by the pressure of which the rupture was effected.

#### SECTION 15.

**SYMPTOMS WHICH SUCCEED THE RUPTURE OF THE UTERUS.**—As soon as the female experiences the result of the violent efforts of the fœtus, a violent scream announces the fact to the assistant; this is immediately succeeded by fainting, from which after a short time she revives, and fancies herself better. The motions of the fœtus are no longer felt, as it immediately becomes quiet upon its escape into the abdominal cavity. There are no labour pains; yet, with all this quiet, how delusive are the hopes of recovery! The blood rushes from the uterine vessels which are now unclosed, and flows from the vagina, or collects in the abdominal cavity, or both. The abdomen has not the elevated form it had previously, but increases in width; and on passing the hand over it, the limbs of the fœtus are distinctly felt under the integuments. The face of the female becomes deadly pale, and insensibility supervenes; the eyes become hollow, and the eye-sight rapidly fails; a buzzing noise troubles her ears; the pulse falls, weakens, intermits; a mortal chill creeps over the limbs, then over the whole body, and a cold perspiration covers the surface;

the voice falters, fails, and syncope and convulsions ensue; until at length, having neither feeling nor consciousness left, the mother expires a miserable death.

#### SECTION 16.

It must be remarked, that the symptoms above enumerated, are not experienced in every case. In some cases, one part of them may be absent; in others, another part of the symptoms may not occur. I have even seen a woman perish in an instant, without one of the symptoms which usually precede rupture, having been observed. There are also examples of women, who before death, have experienced symptoms different to those previously related. In fact, the suffering of the woman, both in degree and violence, varies according to the irritability and feeling of each individual; and according to the lesion, or the degree of lesion, of the different viscera of the abdominal cavity: the functions of which are disturbed by the escape of the child, and its falling into it.

#### SECTION 17.

When the uterus is ruptured, the fœtus has either partly escaped through the rent, or is wholly in the abdominal cavity. In the latter case, (that is, when in the cavity of the abdomen,) if the fœtus passes against the diaphragm, hiccup ensues; with difficult breathing, oppression, feeling of anxiety, fainting, and convulsions. If the stomach is pressed upon, the patient will experience great weight and oppression in that region, accompanied with nausea and vomiting. If the pressure be on the liver, there will be great anxiety, and vomiting of green matter. If it be the intestines which are interfered with, cholic and iliac passion will be present. If the spleen receives the pressure, it will cause a dull pain to be felt in the left hypochondriac region. And in other cases, the symptoms already enumerated, will be observed either separately or combined. It is easy to distinguish which of the viscera is suffering, by our knowledge of the place each part occupies in the cavity of the abdomen; by the lesion of the function of each viscera; and by the continued pain which the parent feels in particular parts, which she will endeavour to point out with the hand, though excessive pain has deprived her of the power of speech.

#### SECTION 18.

It is important here to observe, that the danger of probable uterine ruptures occasionally exists only in the fear caused by unusual symptoms; as, for instance, in the three following examples. First.—In natural labour, it frequently happens that the uterus is so much elongated by the fœtus as to cause pressure on the stomach, and thereby give rise to vomiting; but, for which, rupture of the uterus would occur. Secondly.—In all cases where the child dies in utero, there is a feeling of struggling in the uterus, arising from the last convulsive efforts of the child. Thirdly.—When the umbilical cord is ruptured in utero, the symptoms resemble those which accompany rupture of the uterus; the child, by its convulsive movements, striking against the walls of the uterus, the epigastric region is elevated, and the female is so exhausted as to appear lifeless. The celebrated M. Levret has recorded one of these cases, which furnishes a convincing proof, that in the obstetric art, the true and certain often

so closely resemble the false and uncertain, that the skill of the artist is severely tested in distinguishing, without confounding, and in applying means which are applicable to cases which are of a widely different character. In the first two cases of which we have spoken, it is necessary truly to ascertain the character of the false pains which cause the movement in the uterus. The nature, also, of the swelling in the first case, and of the relaxation of the uterus in the second. The absence of excessive pains, with the symptoms of the eighth section (which are common to all the three cases in lieu of the most violent pains), and the presence of those which precede rupture, announce the danger of this accident.

## SECTION 19.

Having shewn the causes which may produce uterine rupture, the symptoms which precede the accident and those which are recognised when it is already ruptured, we now purpose to consider the means of preventing, or remedying the evil. We scarcely find anything positively stated by our authorities on this subject (except in the works of M. Levret) on the prophylactic treatment of this accident. I shall express my opinion on this point, when speaking on the prophylactic means.

## SECTION 20.

**MEANS OF PREVENTING THE RUPTURE OF THE UTERUS.**—In difficult labours, when the symptoms alluded to in the eighth section exist, and lead the accoucheur to apprehend a rupture of the uterus, he must with the greatest possible expedition search for the causes capable of producing the accident. If they are such as I call rational, which are in the temperament or constitution of the patient, and in the regimen which the patient has observed in pregnancy or preceding accouchements; or, if the causes are evident, the accoucheur will satisfy himself of their existence by examining the abdomen, considering the form, examining the state of the os uteri, and of the presentation of the fetus. The causes once discovered, he must carefully weigh in the balance of reason and experience the possibility of averting the threatened danger; and, if there be a remedy, he must lose no time in applying it. If there is deformity of the pelvic basin, and the head of the fetus is excessively large, the fetus itself being strong (which often occurs, and which frequently causes a rupture when deformity of the pelvic basin does not exist), then we must patiently abide the issue of such an event. But if the causes capable of producing rupture of the uterus, which prevail, are the bad formation of the uterus, its too protruding character and its shrinking during pregnancy, its unequal expansion caused by the attachment of the placenta to its sides, the smallness of efficient dilatation in the os uteri, its occlusion by fleshy excrescences, ulcers, schirrus, and convulsions of the fetus or its bad position, then hopes of cure exist. When one or more of these occur, art is not without resource. Nay, as will be hereafter seen, there are some of these cases which admit of even more than one remedy.

## SECTION 21.

Parturition has always been considered extremely difficult, in fact, sometimes impossible, in cases where considerable deformity of the pelvic basin



exists, or where there is any exostosis in the cavity of the pelvis. Women, who have been ricketty in infancy, usually suffer from either one or the other of these complaints. It is for such cases that accoucheurs have invented means, proportioned to the smallness of the pelvic outlet, in order to remedy this evil. In some instances they have been possessed of sufficient wisdom to use their means at the commencement. If a deformed pelvis is considered a sufficient reason to justify the Cæsarian section, surely an anticipated rupture of the uterus, may also sanction its adoption, when arising from the same cause. If this remedy is deferred, the event is most certainly fatal; art not being able to afford a better mode of relief.

## SECTION 22.

I have stated, that the excessive size of the head of a large strong foetus, is often the cause of rupture of the uterus. This is not less dangerous than a deformed pelvis; and it has this additional inconvenience, that if the basin of the pelvis is well formed, as it often is, the accoucheur generally flatters himself, although very erroneously, that a happy termination of the delivery is at hand. He little imagines, that by so complacently waiting in *the greatest apparent security*, he is preparing the stroke which must certainly kill the mother: and thus he renders a case desperate, over which art would have triumphed, had the remedy for so large an evil been applied in time. However, it is not very astonishing, that in such cases, accoucheurs should prefer to wait, since the experience of past ages has taught them, that children, whose heads are too large, have with time and patience passed through the outlet of the pelvis; from which, had they remained locked in, the crotchet, or some other instrument, would have been necessary to deliver them. It is for these reasons that I consider such cases more serious than even deformity of the pelvis, though in themselves they may not be so dangerous. The reliance placed upon the hopes of a satisfactory termination, often proves the occasion of loss of life to the mother.

## SECTION 23.

But, if it is easy to deceive ourselves as to the nature of the cases I have been describing, and if the producing cause can occasion such different results, it appears to me to be perfectly justifiable to call in question the possibility of the prophylactic cure. As it is essentially necessary that the accoucheur should neither be undecided nor deceive himself, I shall lay down an established rule, which will be to him a certain guide. In the case where, notwithstanding the correct form of the pelvic aperture, the size of the child's head forms an obstacle to delivery, and if at the same time there are symptoms which indicate a rupture of the uterus, it is criminal to wait for a natural termination of the labour; at least, so doing much increases our character for ignorance. It having been fully shewn, by all observers, that delay on this occasion always proves fatal, and that it is dangerous to place too much confidence in a well-formed pelvis. But the reader may meet this by asking, "By what means do you propose to prevent the rupture taking place?" My reply to this is, "The Cæsarian operation." I have the *glory* of having *first* proposed this; a remedy not previously suggested by any one to

meet this case. I have three reasons for believing that the Cæsarian operation is indispensable. First, that when the head of the child is too large, and causes symptoms indicating rupture of the uterus, neither medicine nor surgery has any other remedy to offer. Secondly, that the means which have been proposed, viz.—to turn the child, are perfectly inadmissible, as I believe I have proved that it is always mortal to the child, and frequently so to the mother. Thirdly, that the breaking down the head of the child with the perforator, and extracting it with a crotchet, is, in fact, a deliberate murder of the child. In addition there is also the great risk of rupturing the uterus, by the very means adopted to prevent the mischief; for it is possible, that the child not being easily gained, the first impression of the perforator may occasion it to move more convulsively, and thus endanger rupture of the uterus. These, then, are the only two plans suggested in lieu of the Cæsarian operation, and are all that the obstetric art can at present propose; but since both of them are criminal, I maintain that the Cæsarian operation is the *only justifiable remedy*.\* It may, however, be said, that the remedy proposed is worse than the disease itself! Those who make this objection do not consider, that, although an incision made in the uterus with a sharp instrument is a *serious operation*, yet the rupture of the uterus is *much more serious*, and *much more dangerous in its consequences*. I shall presently show, that when the uterus is ruptured, an incision, *even then*, cannot always be dispensed with.

## SECTION 24.

The Cæsarian operation, which I propose as a preventive to rupture of the uterus, is not, however, practicable, when the head of the child descends into the cavity of the pelvis. In this case, when the head of the child is firmly wedged in the passage and the maternal efforts are strong, indications of rupture may appear; if so, the forceps alone can remedy the evil. M. Levret sent me the account of a case, which I shall here give in confirmation of my views. "He was called to attend M——, who, in all her previous confinements had experienced most difficult labours, in consequence of a deformed state of the pelvis. The liquor amnii had been some hours discharged, and the uterine pains had brought the head of the child into the cavity of the pelvis, where it was easily felt. To wait the natural termination was then his object; but the mother soon after complaining of the severity of the pain caused by the convulsive efforts of the child, M. Levret immediately recognised the symptoms indicatory of danger of rupture; therefore, without longer waiting, he seized the child's head with the forceps and immediately delivered." This prompt mode of treatment saved the life of the mother, in all probability preventing the rupture which appeared about to occur.

## SECTION 25.

The third cause of rupture of the uterus, is the malformation of the organ itself. Emswiler has collected a number of badly formed specimens. M. Levret and myself opened a woman who died at the seventh month of preg-

\* English readers must bear in mind, in reading a continental authority, that the law of nature prefers to save the life of the child to that of the mother.

nancy, the cause of death at the time unknown, and discovered the uterus to be in many places cartilaginous: the fallopian tubes being very much twisted, and also cartilaginous. If then the malformation of the uterus is to be considered a cause of rupture (which it undoubtedly is), this misfortune may be prevented by the Cæsarian operation, when there is little progress making to the termination of the labour. But if the os uteri is well open, and the membranous bag of waters uninjured, the child must be turned, and the woman delivered. This is the practice which ought also to be adopted, when the uterus is displaced by being prolapsed.

#### SECTION 26.

We have included amongst the number of causes of rupture of the uterus, its unequal thinness and irregular contraction and expansion, arising from the attachment of the placenta to its lateral walls. Efforts have been made to throw doubts upon the possibility of the first; Daventer and his commentators having formally denied the thinning of the uterus, and the warm disputes maintained upon this subject are not yet forgotten. Nature, however, has been consulted, and observations have been made at proper times, which have satisfied many of the fact; and that which occurs in natural labour may also suffice to shew it, at least, by analogy. We are fully aware that the os uteri, which before labour is thick, becomes, during its continuance, as thin as a piece of paper, when the head of the child, accompanied with its membranous bag of liquor amnii, forming a spherical body, is pressed against it. We also know, that immediately after labour, the same part regains its usual thickness. It therefore appears evident, that the same law of nature extends, during pregnancy, to the whole body of the uterus, since the causes which distend and contract the parts during labour, exist equally during the whole time of pregnancy; as the waters and gradual development of the child are continually augmenting the size of the uterus. If I consider the thickness of the os uteri after labour, I cannot infer that it was also so during pregnancy and parturition! On the contrary, I am certain that it was very much thinner. Neither can I reasonably prove the thickness of the uterus during pregnancy, by its thickness immediately after parturition—an argument as weak as the one already refuted, though the strongest employed by Daventer to prove that the uterus enlarges during pregnancy, and maintains its thickness! As to the attachment of the placenta to the lateral walls of the uterus, Stuart and Bochemerus had both, beyond all doubt, opportunities of seeing it. Levret had also advanced the same, in opposition to the opinion of Daventer, who maintains that the placenta constantly remains naturally attached to the fundus of the uterus. From what M. Levret states, doubt can no longer exist of the fact, that the attachment of the placenta to the sides of the uterus causes irregular contraction and expansion of that organ. Whenever, therefore, this irregular contraction exists, it must be considered as, more or less, an indication of rupture; and, in such a case, we should immediately rupture the membranes, turn the child, and proceed to deliver the woman instantly. This should also be done if the waters have been discharged.

## SECTION 27.

The smallness of the os uteri, its difficult and insufficient dilatation, its occlusion, or being blocked up by fleshy excrescences, ulceration, or schirrus, may all be considered causes likely to produce rupture. Very simple means are sufficient to overcome some of these, and also a small number of those we have related above, particularly when the nature of the obstacle to be overcome is understood. For instance, when there exists too much rigidity of the os and cervix uteri, preventing a sufficient dilatation, bleeding and vapour baths, accompanied with an emollient decoction, may be employed with success. The smallness of the orifice, in connection with the state of the fibres of the os and cervix uteri, being produced by lacerations in previous labours and callosity of the parts—causing inveterate ulcer, &c., may be easily remedied by means of an incision. And lastly, if the passage be obstructed by fleshy tumours, it is easy to enlarge it and remove the excrescences. With regard to other causes of rupture of the uterus—such as convulsions of the child, bad position, &c., they will be found to be fully treated upon, in the 24th, 25th, and 26th sections, with the means necessary to overcome them; which will furnish a prophylactic cure, also, for the cases just mentioned.

## SECTION 28.

It is now quite time for me to speak of a case, unique in itself, and in the annals of medicine; viz.—*a case of rupture of the uterus*, followed by a perfect cure. Heister states in his works, that a case of perfect cure had been communicated to him by Bungius, to which he raised doubts; nevertheless, it was stated to him as true. And if it were true, a single fact—however extraordinary in our art, will not serve for a general rule; neither will it at all diminish the utility of the means, which I propose as a preventive, in cases of threatened rupture of the uterus, and as a remedy for its dreadful effects, when it has occurred. It is stated, that death is so immediate after rupture of the uterus, that there is no time whatever for the intervention of art. To this I reply in two ways. First, when the fatal moment really arrives, no remedy can prevent death,—our art, powerful as it is, being only able to use human means, being incapable of controlling mortality. Secondly, we observe from the enquiries that have been transmitted to us, that women have survived rupture of the uterus sufficiently long to have allowed the employment of all the resources of our art. La Motte mentions two cases,—in one the woman lived three, and in the other, four whole days after the occurrence of the accident. Hildan states, that a woman of Berne, whose labour lasted eleven days and terminated by rupture of the uterus, lived four days after the dreadful event. Many other similar cases are recorded of females living several days after rupture of the uterus, from which it is easy to conclude, that in many cases there is ample time for recourse to surgical assistance in endeavouring to avert a fatal termination.

## SECTION 29.

WHAT MUST BE DONE WHEN THE UTERUS IS RUPTURED.—These means vary according to the time in which medical assistance was afforded. The degree of

evil—more or less—the antecedent concomitants, and subsequent symptoms, permitting no possible doubt of the rupture having really occurred. We must endeavour to ascertain if the child has wholly escaped into the abdominal cavity, or if it is still, wholly or in part, enclosed within the uterus. We have witnessed cases of rupture, in which the child has preserved its position as in natural labour; we have also seen it suddenly change its bad position—or at all events its posture; sometimes wholly slipping into the abdominal cavity; and at others, remaining partly in and partly out of the uterus. The knowledge of these positions cannot be otherwise than necessary, as in some the treatment is much more simple than that applicable in others. Knowing the particular case, we can much better understand the degree of energy required from us, and also see the importance of not allowing the case to run into the extreme.

#### SECTION 30.

If the child has escaped into the abdominal cavity, the part which presented itself at the orifice can no longer be felt. The os uteri is sometimes a little obstructed, as is often the case after parturition; if not, there will be a flow of blood from the uterus, either pure or in clots.

#### SECTION 31.

There are also other symptoms to examine, in order to determine whether the greater part of the child remains in the uterus after its rupture, or only a portion of its members. We recognise that it is nearly all contained, when, first, the position which it occupied in the womb previous to the rupture is not altered, whether that position was a natural one or not. Secondly, when we find the same part presenting itself at the os uteri, which was presented before the accident. It is only by conjecture that we can satisfy ourselves what part remains in the cavity of the uterus, at least, until by the hand we can institute farther examination. We may determine that there is a very small portion of the child's body remaining in the uterus, when the head, the arm, the hand, or any other part which presented itself before the accident is withdrawn; and the symptoms are similar to those already spoken of in the 30th section.

#### SECTION 32.

It is worthy of observation, that the child very rarely passes wholly into the cavity of the abdomen, when its position in the uterus was unnatural. It occurs much more frequently when its position was natural. We must also further remark, that it is not always the body of the uterus which ruptures, or gives way, as it is sometimes in the os uteri; which furnishes equal means for the child to escape into the cavity of the abdomen. The symptoms, which announce this species of rupture, are not in the least equivocal, as the blood flows continually by the vagina; and even the placenta, as well as the intestines, may be felt, with the finger, per vaginam.

#### SECTION 33.

But whatever may be the situation of the child in the uterus, and wherever the rupture may occur, if the accoucheur has not deeply observed for himself,

he has great difficulty in ascertaining the true features of the case. A midwife does not possess sufficient knowledge, properly to weigh the importance of the symptoms as they occur; and if we at all question her the replies are often vague, and not unfrequently she answers with reluctance, caused by fear of having acted improperly, and sometimes states untruths in order to cover her mistakes. Thus the accoucheur cannot rely upon her statements. On the other hand, it sometimes happens, that neither the invalid nor those about her, will consent to the examination which it is necessary for the accoucheur to institute; and should consent be obtained, the dreadful condition of the invalid sometimes renders the examination impracticable. The position of the patient in bed may also be very inconvenient; and the slightest attempt to improve it, would be attended with fatal syncope, or with equally fatal convulsions. Under these circumstances, the necessary examinations are made with difficulty, and with considerable disadvantage; and are, occasionally, so inefficient, as to cause doubt to the accoucheur of the best course to pursue.

## SECTION 34.

Whatever difficulties may stand in the way of an examination, the accoucheur ought to ascertain from the symptoms we have enumerated, whether the child is wholly in the abdominal cavity, or if a greater part remains in the uterus—and what portion that may be? He can also ascertain from them, what is the situation of the child in the uterus, what part of the uterus is ruptured, and what is the cause of it? Unless all these facts are truly ascertained, he cannot act with prudence. Although a proper examination cannot be obtained, it does not follow that art cannot assist, or be of great advantage. When the child is wholly in the cavity of the abdomen, or when the feet are still in the uterus, the head only having escaped through an opening in the body or neck of the uterus, we must bear in mind that the Cæsarian operation is the only existing remedy. But if the fœtus occupies a bad position in the uterus, and if we perceive that it has only attempted with its feet to pierce the uterus, the accoucheur may often succeed in turning the child and delivering the woman; or the delivery may be accomplished by means of the forceps. We must not, however, conclude that we are justified in resorting to the Cæsarian operation in every occurrence of rupture of the uterus; neither must we imagine that it will be sufficient to turn the child, as long as there remains a part of the fœtus in utero (as M. Simon thinks). Many persons who have written on this subject, before M. Simon's time, have expressed this opinion, and he has most closely and servilely adopted it. The causes and circumstances which I have enumerated, ought to determine the means to be preferred.

## SECTION 35.

The assistance of art does not stop here, neither is the female free from danger when the child is removed. If life is to be saved, and if health is to be preserved, more remains to be accomplished. Up to this time, I have only proposed the means of removing the object which has, or is likely to rupture, the uterus, viz.—the fœtus, either from the uterus itself, or from the part of the abdominal cavity into which it has escaped, by the performance of the

Cæsarian operation; by turning the child, or by delivery with the forceps. But I have not yet given the treatment of a wound of such magnitude, in a part filled with nerves and blood vessels, as that occasioned by rupture of the uterus, accompanied also, as it is, with contusions. This is a point of surgery, which is one of the principle motives for this dissertation; and which has not yet been treated as its importance demands.

#### SECTION 36.

When the rupture of the uterus has been ascertained to have really occurred, we must vary the mode of assistance, according to the circumstances of the case—whether the child remains in the uterus, or has escaped; or, according to the cause producing the rupture. Great caution is also requisite in removing the child. To make this still clearer, I shall first state the proper course to pursue, when the abdomen is opened; I shall then state the treatment necessary, when without opening the abdomen, it is in consideration, to remove the child by the natural mode.

#### SECTION 37.

When we are compelled by the circumstances to make an incision in the abdomen, great care must be taken not to wound the intestines, the womb, or the rectus; any of these may present themselves to the operator's instrument during the time the opening is made. Again—if the child be found in the cavity of the abdomen, it must be withdrawn immediately. If the exit of the child be arrested by a part of it being grasped by the uterus, no violence must be exercised for its liberation; as by that means the rupture would be enlarged, particularly the contused portions of it. The part must be gently dilated, particularly that which is most contused, and the child must then be extracted. This operation requires much caution. If it should be necessary to dilate the opening, care must be taken to avoid the round ligaments; for, if these should be severed, not only would there be excessive hæmorrhage from the large blood-vessels they contain, but the support of the uterus would be removed, and it would subsequently sink too low. From this accident, others of an equally serious nature would also arise. Care must be also taken to avoid making any incision into the fundus uteri, where the vessels are extremely large. For the same reason, every care must be taken not to cut into the placenta. It must also be remembered, that in the anterior part of the uterus there is a particularly large blood-vessel, which must not be injured. Care must also be taken concerning the posterior part of the rectum, as well as of the intestines which are more immediately exposed to the sweep of the scalpel. Indeed, after the contraction of the uterus, if the surgeon does not handle his instrument with great circumspection, skill, and dexterity, danger is to be apprehended on all sides.

#### SECTION 38.

Whether the fetus has wholly escaped into the abdomen, or whether it is still in the uterus, it must have given cause for hæmorrhage and the effusion of other fluids into the cavity of the abdomen. Great care must be taken to

remove every particle of these with a sponge which has been soaked in some vulnary decoction, or in red wine previously warmed. There is no dispute amongst authors respecting the treatment of the wound before gastrotomy, they all agreeing on this point, viz.—sewing up the abdominal parietes. The following is the practice adopted by the French surgeons, during the Cæsarian operation. After having removed the fœtus, and wiped away every drop of blood from the abdominal cavity, they leave the wound entirely to the care of nature. This practice surprised Heister no little; he allowing the blood to escape for a short time, and then applying to the wound lint soaked in spirits of wine; and, with the object of encouraging cicatrization, he employed balsam copahu, or something of a similar nature. Rousset washed the wound with a decoction of vulnary plants. Ruleau, after having washed the wound with a similar decoction, applied to it a warm balsam, composed of equal parts of balsam of Arcæus and oil of Hypericum. These are the different methods in use for the treatment of simple wounds of the uterus, but we find no mention made of the treatment necessary for wounds of a complicated character.

## SECTION 39.

Where there is contusion with ecchymosis, which always occurs in rupture of the uterus, a very different treatment must be adopted; it must be varied according to the size of the contusion, the time which has elapsed since the rupture, and the symptoms which present themselves. For if the opening in the abdomen is made immediately after the rupture of the uterus, and the contusion is recent—that is to say, if the ecchymosed blood is not yet coagulated, we may hope to obtain a resolution. To promote this, the parts must be bathed with a solution of sal-ammoniac or sea salt in tepid water, to which is added a little spirits of wine. In this case the scalpel is useless, and it is no longer necessary to have recourse to astringents to stop the hæmorrhage. If the wound is of longer standing and the blood is ecchymosed, it is necessary to make an incision to remove the blood. This step, however, must not be taken without great caution. As it often happens that the contused part has lost its sensibility, an incision much deeper than necessary may be made, which, in the opinion of the best practitioners, may prove mortal; it should, therefore, only be made superficially, to prevent hæmorrhage. The wound is then bathed with spirit of Succin mixed with oil of turpentine, or some other active and penetrating liquid likely to promote reaction in the contused parts.

## SECTION 40.

If gangrene should seize the wound, which may occur when the contusion has been violent, we must not spare the incision of the uterus; for no one can be ignorant that however necessary a part may be to life, it no longer contributes to it—nay, even contracts its duration, when it is in a state of putrefaction. It is necessary, therefore, to remove all the putrid parts. Great care must be taken not to cut too deep, for fear of disturbing vessels which have preserved their functions, and thus causing fatal hæmorrhage. After having removed the part which is gangrened, the rest must be cauterized with some pure mineral acid mixed with spirits of wine; and, above all, a



digestive must be applied. In washing the wound with such active applications, we must remember that it extends far into the substance of the uterus, and these active applications will not fail to affect the parts to a considerable depth.

## SECTION 41.

When it does not appear necessary to make the incision into the abdominal parietes, it being considered possible to remove the fetus by turning, or by means of an instrument, we can only conjecture the state of the wound and the degree of contusion. It is then most difficult to remedy the mischief, and therefore the abdominal section or Cæsarian operation is preferable to the extraction of the fetus per vias naturales. If the latter mode is adopted, care must be taken not to increase the rupture or contusion of the uterus. After having removed the fetus and placenta, the blood which has escaped into the uterus and abdomen must be taken away, which is easily done from the uterus by means of the hand. But when the blood is in the abdomen the removal is attended with difficulty, and must be accomplished by instructing the fingers to be on the side opposite to the opening in the uterus; the clots must then be removed, and the hand must not be withdrawn from the cavity until it is cleared of all its contents—even the intestines, &c., should they have fallen into the uterine cavity. The uterus, having resumed its spontaneous contraction, contributes no little by its change of position and size to prevent any further interference with its cavity. Then apply resolute fomentations, &c. to the abdomen.

## SECTION 42.

The alteration of position, and the contraction of the uterus, prevent any further hemorrhage into the abdominal cavity, yet the blood already deposited there, although in contact with the uterine rent, cannot escape by it through the vagina, in consequence of its contraction. Whatever be the condition of the mother, it is evident the blood cannot remain there without causing the greatest danger. In such cases it has been proposed to pass an injection into the uterus, and through it into the abdomen, with the view of diluting the blood, and rendering it more easy to be taken up by absorption. If the life of the mother is to be considered, we prefer, in these cases, the incision into the abdominal parietes for removing the blood deposited, as it is the wisest course to pursue, the other modes being beset with difficulties too great to be overcome. Then follow the questions.—Into what part of the abdomen should the incision be made? What are the symptoms which indicate hemorrhage? It is unnecessary to dwell upon these points, since the subject is so well treated upon in the two memoirs upon hemorrhage, which are inserted in the *Memoirs of the Academy of Surgery*, vol. 1st, page 237; vol. 2nd, pages 92 and 115.

## SECTION 43.

The last subject on which I wish to speak and bring into notice, is in reference to the nature of wounds, the extent of which is increased by pregnancy, and accompanied by extensive hæmorrhage and inflammation. The hæmorrhage is immediately followed by loss of strength, syncope, cold sweats, and death.

The inflammation is as readily followed by unhealthy suppuration, from which proceed ulcerations and fistulous openings. The most common result, however, is a contused wound, which may become gangrenous, schirrous, or even cancerous. Of the latter results it will be unnecessary for me to treat; as they have already been ably commented upon by many physicians and surgeons.

(*End of M. Crantz's Dissertation.*)

On this memoir the celebrated Puzos, in his "*Traité des Accouchemens*," makes the following remarks. Vide Paris Edition, 1759.

M. Crantz in this dissertation proposes three objects. First—How to recognise the symptoms which precede rupture! Secondly—To point out the means of preventing this terrible accident. And, thirdly—How to cure a complicated wound of the uterus proceeding from rupture. The two first subjects have been treated upon with great skill and judgment, and the author merits great praise for the improvements suggested to us upon these two most important points of surgery. He would have merited our praise still more, as well as our gratitude, had he been equally successful in the third portion of his memoir. But the practice which he proposes on this latter question, at least such as it is represented to us, appears full of difficulties. When I had finished reading the memoir of M. Crantz to M. Morand (censor of the press), he was not satisfied with the third division of the subject, and strongly condemned the author's practice of treating a complicated wound of the uterus, like one of the same nature on the surface of the body, and placed immediately under the eye and hand of the surgeon. For the uterus, on contracting after the expulsion of the fœtus, diminishes in volume, and returns into the small basin of the pelvis, and is no longer opposite the opening made in the abdominal parietes, from whence the fœtus was extracted. And however large the abdominal incision, there is no time for the surgeon to dress or attend to the wound of the uterus, as he is compelled immediately to close the abdominal incision by suture.\* M. Crantz cannot deny that the contraction of the uterus, after the expulsion of the fœtus, is very slow! Sometimes seven or eight days—nay, sometimes from twelve to fifteen days elapse, before it regains its normal size. In the memoir of M. Simon it is stated, that some days after the Cæsarian operation performed at Paris, in 1740, by M. Soumain upon — Desmoulins, suppuration took place, and that the discharge became healthy and passed out of the wound. In this case, then, the uterus remains with its rupture near the abdominal opening long enough to be susceptible of some cure! Nor yet can M. Crantz justify his practice, by what Rousset relates of a case of four large ulcers on the external surface of the uterus, which penetrated into its substance, and which were treated with the greatest success, after an opening made in the abdomen with the actual cautery! The

\* The large number of operations for the extirpation of diseased ovaria performed by the Editor of this Journal by the large incision, proves that, in a proper temperature, the abdominal viscera may be exposed for a sufficient length of time to accomplish any surgical dressing, without increasing the risk.

treatment of one of these ulcerations lasted six months, and the cautery had even been applied to the fundus uteri, which, if we read correctly, was descended into the lower basin. A translator shows his estimation for an author by translating his work; he would still more prove his estimation, were he to criticise the work when it really deserves it. M. Crantz says in his thirty-fifth section, that the treatment of the complicated wound of the uterus is the principal object of his dissertation. However, of the forty-three sections into which it is divided, thirty-eight are confined to the two first subjects; and he has even added to these sections some valuable notes, which throw much additional light on the subject; whilst he has devoted but five sections to that part of his dissertation which is the most difficult to understand. There are no notes to explain an object of such importance as that alluded to in the thirty-ninth and fortieth sections—no mention of the treatment suppuration requires, and which is certain to occur when the wound is considerable. The accidents which the author proposes to overcome, such as contusions, ecchymosis, and gangrene, must have their principal seat in the cavity of the uterus, since it is against this surface that the efforts of the child are directed. M. Crantz proposes no pessaries, no injections thrown into the uterus—which Rousset so strongly recommended in simple wounds of the uterus, without the Cæsarian operation. Then the author seems to imagine that the rupture of the uterus is always in the immediate vicinity of the incision made in the abdomen. But has he never found it on the opposite side? Has he never observed it in the neck of the uterus? And has he not seen it extend for two fingers length below the os uteri even into the vagina? We find here nothing which can reconcile such different cases related by our author. With regard to the remainder—notwithstanding these faults, and others which I have not dishonoured M. Crantz by naming, it is sufficient to state, that the illustrious Van Swieten presided when this thesis was read, and to him it is dedicated. Two reasons determined me to translate it, and annex it to the Treatise on Midwifery, of which I am already the author. M. Puzos does not at all allude, in his own work, to the rupture of the uterus; and we find nothing therein but observations derived from other authors. The dissertation of M. Crantz offers a small treatise on this subject which we absolutely wanted. Besides, it is a work well digested, very methodical, written with elegance, and full of research. However, we invite the author to publish a new edition of his dissertation, in which we may find, more clearly and fully established, the possibility of the cure of complicated wounds of the uterus. We have a right to expect it from his great talents, his vast knowledge, and his zeal for the advancement of the art.

**NARRATIVE**  
**OF**  
**AN UNUSUAL CASE**  
**OF**  
**UTERO-GESTATION,**

**IN WHICH**  
**THE PREMATURE EXPULSION OF ONE FÆTUS**  
**PRECEDED BY TWO MONTHS THE BIRTH OF A TWIN FÆTUS**  
**AT THE FULL TERM.**

**BY W. NEWNHAM, ESQ.,**  
*Surgeon, of Farnham, Surry.*

**RE-PRINTED FOR THE**  
**British Record of Obstetric Medicine, &c.,**  
**EDITED BY CHARLES CLAY, M.D., MANCHESTER.**

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**THE FOLLOWING SINGULARLY INTERESTING CASE OF UNUSUAL UTERO-GESTATION, WITH REMARKS BY THE AUTHOR, IS DESERVING OF FURTHER PUBLICITY, THEREFORE THE EDITOR HOPES THAT IN REPRINTING IT HE IS ONLY DOING JUSTICE TO THE CASE AND TO HIS READERS.**

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NARRATIVE  
OF AN  
UNUSUAL CASE OF UTERO-GESTATION.

BY WILLIAM NEWNHAM, ESQ., SURGEON.

On the 16th of November, 1822, the wife of Benjamin Binfield, labourer, residing at Long Bottom, in the parish of Farnham, was confined prematurely with a still-born fœtus. For two days previously she had suffered from irregular uterine action, which had induced her to send for her midwife unnecessarily; but on the present recurrence of effective pain she was speedily delivered, and in a few minutes afterwards the placenta was expelled.

The midwife now discovered that there was a second fœtus in utero, and was a little disconcerted by not finding a return of pain. However, she took the resolution of waiting, and when her patience was exhausted, sent for me. It was four o'clock in the afternoon of the 17th of November (about twenty-two hours after the birth of the above-mentioned still-born fœtus), when first saw this patient.

According to her own calculation she did not expect to be confined until Christmas; and upon a more particular enquiry, I found that she had been regularly unwell on the very last week of March, so that she *could* not naturally have completed the full period of utero-gestation until the last week in December, and probably not for a week or two longer. Thus, at the present moment, she could not be more than seven months, or at the farthest seven months and a half, advanced in her pregnancy. The appearance of the fœtus corresponded also with this decision; it was little more than thirteen inches in length, and, in as far as its state of advancing putrefaction would allow me to ascertain, exhibited the degree of development which we usually find in seven months' fœtuses.

Up to this period, there had been no pains since the expulsion of the placenta; there had been no hæmorrhage; the lochial discharge had been moderate; there existed no untoward symptom; the pulse was slightly accelerated, but certainly not more so than would be readily accounted for by the anxiety almost necessarily incident to her situation.

On examination it was ascertained that there was no uterine action, nor even any degree of tenseness in the membranes of the remaining fœtus, which were entire and undisturbed; the os uteri was contracted, but flaccid and yielding; the fœtus was living and active; the presentation not easily ascertainable, in consequence of its resting at the brim of the pelvis, but it was certainly the head, and this was believed to be in a favourable position.

*Under these circumstances I determined at once to wait the event, with*

the expectation, that the uterus might and would carry on the process of gestation to the completion of its term with this second fœtus. My attention was directed, therefore, to tranquillize the patient's mind, soothe her fears, and inspire her with confidence. With this view I prescribed a placebo, and with the aid of some gentle aperients she recovered in the most favourable manner.

On the 14th of January, 1823, or fifty-nine days from her premature accouchment, she was taken in labour, and in consequence of the absence of the midwife, I was again sent for, when she was naturally and speedily confined with a fine healthy boy, and had an excellent recovery.

#### OBSERVATIONS.

I. This case does not appear to have been one of *super-fœtation*, but rather one in which two ova had been impregnated at (or very nearly at) the same time; inasmuch as the appearance of the still-born fœtus, the previous history of the patient, and the subsequent fulfilment of the regular term of utero-gestation with regard to the remaining fœtus, all *concur* in fixing the period of impregnation at about a fortnight after the last appearance of the catamenia.

II. Many circumstances in the history of the uterine economy have repeatedly shown its power of selection, of carrying on its function of gestation as long as it could be done with advantage to the parent and her offspring, and of taking on its expulsive action when this compact had been destroyed, and its contents became irritants to itself, or to the general system of the mother. This law has been frequently shown in the case of blighted ova: the death of the fœtus from whatever cause, and at whatever period of its development; the existence of moles, polypi, hydatids, &c. But our views of its variety of function are enlarged, and our admiration of the wonderful resources of nature is augmented, when we perceive the uterus carrying on the process of gestation with twin fœtuses—becoming irritated by the death of one of those fœtuses—taking on its expulsive action for the purpose of ridding itself of the irritating cause—and immediately afterwards sinking again into a state of quiescence, and reassuming its gestatory function in order to carry on the remaining living fœtus to its full term, and thus securing its perfect development—exempting it from the dangers commonly attendant upon premature birth, and procuring to the mother the advantages accruing to the parental system from the *natural completion* of the parturient function.

III. The practical inference to be drawn from the preceding narrative is, that in those cases of premature labour, where one fœtus shall have been expelled, but a second or more shall be remaining in utero; where the membranes of the remaining fœtus shall have been undisturbed, and its vitality shall have been established; where the expulsive action of the uterus shall have subsided; and where there exists no contra-indicating symptom, producing fear for the safety of the parent; it is the duty of the practitioner not to interfere, but quietly to watch his patient, and see if nature will not herself remedy the disorder of her functions which has been apparently produced. It is infinitely better thus humbly to expound nature's intentions, than to enjoy the éclat of a mighty, simple operation, viz., rupturing the membranes, turning,

and delivering by the feet, and thus exposing parent and child to considerable and unnecessary risk.\*

IV. These inferences do not happily rest on an individual case: many similar instances have been noticed, but at the same time they are not of such every-day occurrence as to supersede the propriety of recording them, and thus enlarging our acquaintance with the almost endless wonders of the uterine system.

ADDITIONAL REMARKS, BY CHAS. CLAY, M.D. MANCHESTER,  
EDITOR OF THE BRITISH RECORD.

In the *London and Edinburgh Monthly Journal of Medical Science*, Dec., 1842, a case is related by Dr. Jameson of a blighted twin being retained, with its placenta and membranes, for seven weeks after the birth of its fellow twin alive, and which was presumed to have arrived at the full period of utero-gestation. This is very remarkable! We can easily conceive the uterus to be endowed with the power of ridding itself of a blighted or dead foetus before the period of utero-gestation is accomplished, even allowing the second foetus to be retained to the full period; but to throw off the healthy, and retain the blighted one, and that beyond the usual period of pregnancy, is an anomaly proving that the laws of nature, in many cases, are extremely difficult of explanation. In the *Lancet*, Jan., 1843, a Mr. Vale recites a case of a woman, being pregnant with twins, giving birth to the first alive, at the seventh month; and the second, also alive, two months afterwards, being the completion of the proper period of utero-gestation. Drs. M'Clintock and Hardy, in their truly excellent and practical work, entitled "*Practical Observations on Midwifery*," 1843, record the case of a female at her sixth pregnancy producing twins, both children being girls, the first of which was strong and healthy, and apparently at full time—the second much smaller, dead, copper-coloured, and in a state of putrefaction. In this case there was but one placenta, and that part of it which was enclosed by the membranes of the dead child was slightly darker and more consolidated than the rest. We (the Ed.) have in our practice experienced three cases in which the births of twin children were separated by a space of time; in two cases an interval of three weeks occurred, and in the other fourteen days. In all three cases the first-born foetus was dead. Such examples go far to prove that in cases of plural births each foetus possesses its independent involucre. We do not detect any of the characteristics of super-fetation in these cases; in fact, we experience considerable doubts respecting the majority of cases published under that title.—ED.

\* But where these circumstances are wanting, and especially in twin cases at the full period of utero-gestation, when, upon the expulsion of one foetus, the uterus relapses into a state of inactivity, although the placenta of the first may have been expelled; although the membranes of the remaining foetus may be yet entire, while its vitality may have been ascertained; and although no untoward symptoms may appear to indicate the indispensable necessity of immediate delivery, it would be decidedly unwise for the practitioner to commit such a case to the efforts of nature, upon the bare possibility of its being a case of super-fetation. While perhaps he will be induced to yield his ready assent to the possibility of such an event, he will recollect that it is as much his duty to assist the actions of nature when languid and inefficient, as it is to be guided at other times by her manifest intentions; and weighing in his judgment against this admitted possibility, the high degree of probability that it is not so, he will certainly not quit his patient for a moment, until after the birth of the second foetus, lest the occurrence of hæmorrhage, or other fatal accident, should too painfully teach the importance of taking enlarged views of the economy of nature.

## MONOGRAPHS—ANCIENT SERIES.

### The Obstetric Aphorisms of Hippocrates.

WITH SHORT COMMENTS ON EACH,

BY GALEN, FUCHIUS, AND OTHERS.

*Translated from the best Edition of Aldus, A.D., 1526, and compared with the beautiful Latin Edition of Vicentino, also of 1526,*

EXPRESSLY FOR THE "BRITISH RECORD," BY

CHARLES CLAY, M.D., MANCHESTER, EDITOR.

That portion of the writings of this most ancient father of medicine which is entitled "Aphorisms," is divided into seven books, and contains about four hundred and four separate paragraphs; in which are included the fundamental principles of his practice in every branch of the profession. The aphorisms on obstetrics are, however, confined to about thirty-six, forming a part of the fifth book. This subject (obstetrics) commences with the twenty-eighth aphorism of the fifth book, but we shall number them consecutively, from one to thirty-six. The commentaries of Galen, Fuchius, and others, are placed immediately after each; they have been copied from a very old edition of commentaries on the writings of Hippocrates. Some of the best monographs, on particular questions, will be selected from the writings of Hippocrates, and given occasionally at some future period. The series of monographs will also be so arranged, as to afford the greatest possible variety of authors.

Hippocrates was born at Cos, or Coos, an island of the Ægean sea, and was the son of Heraclides and Praxithæa; the latter the daughter of Phenaretæ. He considered himself to be descended from Esculapius, from whom he formed the twentieth generation, and Eratosthenes, Pherecides, Apollodorus, and Arius Tarsensis, all mention his genealogy. He studied under his father, was a pupil of Herodicus, the rhetorician Leontinus, and Democritus. He was born in the fifth year of the eightieth Olympiad; others say on the twentieth of the month Agrian, on which day the Coans still offer sacrifices in honour of him. He was greatly skilled in medicine, and travelled far and wide to witness its effects in various climates. His fame equalled his skill. He taught his art as he practised it, with the greatest liberality and candour; a singular proof of which is mentioned by Celsus, that he once mistook a fracture of the skull for a natural suture, and had the candour not only to confess it, but to leave the error on record. Perdiccas, king of Macedonia, sent for him to be cured of consumption, but Hippocrates immediately discovered that his disease was to be attributed to love for his concubine Phila. He went to Abdera to cure Democritus of insanity, and to expel the plague from that city. Artaxerxes, king of Persia, offered him great rewards to induce him to remain in his dominions, but the medical philosopher resisted his offers, preferring comparative poverty in his own country. In the wars between the Athenians and Thessalonians his advice was of such benefit that public honours were decreed to him by the Coans; his name, in the sacrifices, was placed next to that of Hercules; and he was maintained with corn from the public granaries, without exciting envy or popular discontent. He died amongst the Larissæans, about the period of the death of Democritus, at a ripe old age, variously stated



at 90, 104, and 109 years, and was buried between Gyrtone and Larissa, at which place a monument was erected to his memory. In the busts and pictures he is represented with a sort of hat, denoting nobility. Some say that his head was merely covered with a cloak, on account of his baldness; others that his head was susceptible of cold; others that the head being the seat of the soul, should be well guarded; others that it was the common dress of travellers; and lastly, others state that when his cloak inconvenienced him he threw it over his head. There have been many disputes concerning the authenticity of his writings, and in deciding which are spurious and which genuine, arising from a slight alteration of his surname and a different style of writing, probably to be attributed to the difference of his age when he wrote. He always despised money, and greatly loved his country. He left two sons, Thessalis and Draco, and a great number of disciples, which posterity has vastly multiplied; may they still continue to increase. The oath he administered to his pupils upon leaving him does equal honour to his head and heart, and is worthy of adoption by every medical and surgical corporate body.—ED.

N.B.—The comments, when they occur, will immediately follow the aphorisms, and will be recognised by being printed in Italics.

#### APHORISMS RELATING TO OBSTETRIC MEDICINE.

1. Fumigations of odoriferous spices encourage the menstrual secretion, and might be used with advantage for other purposes, if they did not determine the blood to the head. *Because fumigations stimulate the expulsive powers of the uterus, and open the obstructed vessels of that organ.—Galen.*

2. It may be necessary to purge the female at the fourth month of pregnancy, and from that to the seventh; but when near the latter, purging must be most cautiously advised; and must be totally avoided in earlier or later months than those specified. *Because the attachment of the ovum to the uterus is not very firm until the fourth month, and becomes still less firmly attached after the seventh month.*

3. Abortion is often produced by bleeding during pregnancy, more particularly when gestation is somewhat advanced. *Because it deprives the fetus of its proper nourishment, and thereby loosens its attachment to the uterus.*

4. Acute diseases, occurring during pregnancy, are very dangerous, and often result in a fatal termination. *Because, in pregnancy, inflammation runs a more rapid course and kills the mother; or the sudden reduction of the system deprives the ovum of vitality.*

5. Vomiting of blood has been cured in a female by the commencement of the menstrual secretion. *From the flow of blood being diverted from the affected part to a natural outlet.—Galen.*

6. Bleeding at the nose is a favourable symptom, and serviceable during a suppression of menstruation. *If it happens at any other time it is of little importance.*

7. Diarrhœa, during pregnancy, often terminates in abortion. *Because the fetus is equally deprived of nourishment by a relax as by blood-letting.*

8. Sneezing is of advantage during suppression of the menses, and in difficult labour. *Because the obstruction is sometimes removed by the violent agitation of the body; and secondly, it assists the uterus to expel its contents.*

9. When the menstrual secretion is deficient in colour or quantity, or irregular in the time of its appearance, the necessity of purging is indicated. *Purging removes the discolouration, and restores the usual healthy appearance of the discharge.*

10. If, during pregnancy, the breasts become suddenly elongated and lax, abortion will probably follow. *The same appearance is observed when the fetus in utero dies for want of due nourishment.*

11. If only one of the breasts becomes lax (as in aphorism the tenth) and the other remains firm, in a woman pregnant with twins, one of them will be born prematurely. If it is the right breast that is affected, the premature fetus will be a male; and if the left breast, it will be a female. *The male conception is supposed to lie on the right, and the female on the left side.*

12. If a female has milk in her breasts, when she is neither pregnant nor lately delivered, it indicates that menstruation has failed to make its appearance. *The breasts sympathise with the uterus; and when the blood which supplies menstruation is no longer required, it produces the formation of milk in the breasts.*

13. A collection of blood in the mammae is an indication of insanity. *For this reason: the blood being full of impurities affects the nervous system, particularly the brain.*

14. If honey and water given at bed-time, produce griping pain in the uterine region, it is an indication of pregnancy; but if unattended by such disturbance, the female is not pregnant. *It certainly produces flatulency and griping, but the indication is fallacious.*

15. If pregnant women are fresh coloured, the issue will be a male; but if the colour be bad, it will be a female. *Occasionally true, more frequently untrue; consequently not to be relied upon.*

16. Erysipelatous inflammation of the uterus, during pregnancy, kills the fetus. *Because bleeding will be resorted to, which causes abortion; as in the third aphorism.*

17. Child-bearing women, who are very thin, frequently miscarry; which tendency leaves them as they become stouter. *Because the fetus suffers from the want of proper nourishment.*

18. Women that are fat occasionally miscarry in the early months, without any apparent cause. It is in consequence of the vessels of the uterus, called cotyledons, which supply the embryo, being obstructed with fatty humours, and therefore unable to furnish the fetus with proper nourishment; consequently it is aborted. *Because, says Galen, it cannot help itself.*

19. Women that are very fat cannot easily conceive, in consequence of the pressure of parts closing up the inner surface of the uterus. Such become more capable as they grow leaner.

20. If the uterus be ulcerated in a part which is easy of access, it must be cured by tents dipped in a liquid medicine, called by the Greeks "Commoton."

21. Male children, for the most part, lie on the right side of the womb, and female children on the left. *Galen remarks that the male child creeps to the warmer side, which is caused by the vicinity of the liver.*

22. Any application that produces sneezing, facilitates the expulsion of the placenta; but it is necessary to close the nose and mouth at the time.

23. In case of menorrhagia, relief is sometimes afforded by applying a large cupping glass under the mammæ. *By this means endeavouring to divert the direction of the blood to another part.*

24. After conception the os uteri becomes literally closed. *To exclude cold air, and to retain the natural heat of the uterus. Or, says another, to prevent the air from injuring the conception, and the uterus losing the object that stimulates it.*

25. If milk flow from the breasts during pregnancy, it indicates weak conception; but if the breasts are firm, the fœtus is strong. *Because the formation of milk deprives the fœtus of its supply of nourishment.*

26. If the breasts become flaccid, the female is likely to abort; but the contrary, if they are firm, although painful themselves, and accompanied with pain in the eyes, hips, and knees.

27. When the os uteri is closed, it is firm and hard to the touch.

28. Child-bearing women suffering from fever, or who are much debilitated without any apparent cause, generally experience tedious labours, often attended with danger; very probably they may lose their lives from abortion, which frequently results from such a state of the system.

29. If convulsions or syncope attack a female during menstruation, imminent danger arises from it. *Because of the great sympathy existing between the uterus and the parts essential to life.*

30. When menstruation is too abundant, other diseases are frequently occasioned; these if cured, or even checked, are liable to be replaced by disease of the uterus. *By the sudden prostration of the system.*

31. Difficulty of passing the urine may be occasioned by inflammation of the intestines, of the bladder, or uterus, or from ulceration of the kidneys. If it arises from inflammation of the liver, it is succeeded by hiccup.

32. If a female has not conceived, and it is desirable to ascertain if she is capable of doing so, confine a fumigation to the parts of generation; and if the fumes are perceptible at the mouth or nose, the woman is not barren, but capable of conception. *This aphorism is absurd, and can only be excused by the age. The rest contain a mixture of common sense. It is supposed not to belong to Hippocrates.*

33. Menstruation may continue during pregnancy, but the fœtus must suffer in consequence. *For want of proper nourishment.*

34. When the cessation of menstruation is unattended by shivering, and the female loathes her food, in all probability conception has taken place. *The menses being immediately required to supply the conception.*

35. Women who have too much, or not sufficient, menstrual discharge, do not easily conceive. If it be in moderate quantity, they are in the habit of bearing children frequently.

36. The same rule (as in thirty-five) may also be applied to men: If the semen be too thick, or too thin, they are not fruitful. *This aphorism is supposed not to be one of Hippocrates.*

These aphorisms are capable of better arrangement with regard to their relation to each other, but the Editor prefers giving them in the order they appear in the original.

A COURSE OF LECTURES ON PRACTICAL OBSTETRICY.—BY ALEXANDER TYLER, M.D., LECTURER ON MIDWIFERY, ETC., DUBLIN.

*(Continued from page 8.)*

As the tide set in against chloroform other fatal cases were recorded as having occurred from its powerful effects. The Newcastle case made such a noise with the public and amongst the profession, that Dr. Simpson thought it requisite to refute the evidence brought forward against chloroform, and by a very ingenious train of argument, endeavoured to prove that the girl died, not from the effects of chloroform, but was destroyed by artificial choking or asphyxia. Only 3i. of chloroform was administered in this case, and the morbid appearances found on post-mortem, corresponded in a most remarkable degree to those found after simple asphyxia rapidly induced.

Before passing a verdict upon the Newcastle case, let us draw your attention to the effects of chloroform upon the system. These have been divided into stages; some describe them as two. The first, a state in which consciousness being entire, the sensibility to pain is alone destroyed; the second, in which all the senses are drowned in profound slumber. The most accurate description and best division of the stages of anæsthesia I believe to be that of Dr. Snow, of London, who, after a close investigation into the subject, has divided the effects of chloroform into five progressive stages.

The first he describes as one of exhilaration of the mind. A few inhalations of the vapour are sufficient to produce this state. If its administration is persevered in, the other stages are successively developed as follows:—

2nd stage. The mental faculties begin to be overpowered by the supervention of a dreamy condition. The patient is not unconscious of pain, but wanders; however, in this state, the infliction of pain soon recalls the wandering faculties to their natural state, if no more chloroform is administered. Therefore its use must be continued until a deeper soporific effect has been induced, viz.

3rd stage. The powers of the mind are gone; but there is not perfect insensibility to pain; however, sufficient to relieve some of the pains of parturition, and in general this stage should not be passed during labour, except in some cases to annul the excruciating pangs of the last expulsive pains.

The 4th stage is one of complete unconsciousness ; no sensation exists of pain even the most acute ; but the involuntary muscles still continue their action. The foetus, therefore, may be expelled by the natural pains in this stage, although it is doubtful whether there is not an actual loss of power, by the withdrawal of all action from the abdominal muscles, which in ordinary labours assist so much in the last struggles of childbirth. But the activity of the involuntary muscles is partially affected, even in the fourth stage, as it passes by insensible degrees into the fifth, and last,—when the muscular fibres of the uterus cease to contract, respiration is arrested, and finally, the heart itself ceases to beat. Were it possible, in every case, to mark with precision and certainty the gradual progress, and to note at any given time the amount of anæsthesia, then induced by referring the state of the patient to one of the stages above specified, we might pronounce the administration of chloroform as perfectly safe in the hands of educated medical practitioners, and class it amongst many other powerful drugs, which, if administered in certain doses, and their effects carefully watched, are justly considered by the profession as valuable remedial agents ; but if given without regard to quantity, and in ignorance of their therapeutic action, will certainly, in many instances, prove a sure and fatal poison. This precise knowledge as to the different shades and stages of anæsthesia some assert can be acquired, and I am inclined in a general way to believe it possible. At the same time, I doubt very much the universal and uniform occurrence of any set of symptoms, as so beautifully delineated by Dr. Snow and others. It is this doubt, chiefly, which deters me, and many others, from inducing anæsthesia generally in all cases of painful labours, in place of confining its use almost exclusively to cases of operative midwifery, as at present is the practice in Dublin. This objection may be urged in explanation of the fatal result in the Newcastle case, and I think on good grounds, for it appears, in that instance, the surgeon only administered about one drachm of chloroform, which in most instances requires to be repeated several times before a sufficiently deep state of anæsthesia is induced ; yet in this poor girl's case, we are informed, this small quantity produced the most alarming symptoms. Whether she might have recovered out of this state had she been left alone, and that unfortunate brandy and water not been administered, which Dr. Simpson is convinced drowned her, or that in her case we are to consider the chloroform as the offending agent, and explain the

fact of death to peculiar susceptibility and idiosyncrasy of constitution, is a problem difficult to solve, and I think if the jury which brought in the verdict, Guilty Chloroform, were now sitting, and that a member of the long robe, or indeed Dr. Simpson himself, were to plead the case of chloroform in the same able and argumentative style that the talented Professor has already done, both in his lectures and in pamphlet, they would find themselves in a dilemma, as I am now, whether to acquit chloroform of all blame, or perhaps to bring in a verdict of guilty, with a strong recommendation to mercy as the safer course, the defendant having been known to have done mischief, and to be dangerous to the welfare of the constitution, when allowed to be imbibed indiscriminately and too freely by the public at large.

There are some other objections, urged against the induction of *anæsthesia*, for the purpose of soothing the pains of labour, which now demand our earliest consideration.

It was early objected to the use of *anæsthetics*, that we have not Scripture authority for mitigating the pangs of labour; nay, on the contrary, that we fly in direct contravention to the mandates of our Bibles by doing so, the Lord God having said unto Eve after eating of the forbidden fruit, "In sorrow thou shalt bring forth children."

This objection was considered by many, both clergy and laity, to offer an insurmountable barrier to the use of *anæsthetics* by lying-in women. One clergyman called chloroform "a decoy of Satan, apparently offering itself to bless woman, but in the end (he declared) it will harden society, and rob God of the deep earnest cries which arise in time of trouble for help."

As this question has been, I believe, set at rest by the elaborate and learned disquisitions of my friend Dr. Simpson, I feel it to be my duty here to give you a condensed sketch of his views and arguments upon the subject, lest at any time you should be needlessly deterred by religious scruples from the use of *anæsthetics* during parturition. I may premise that Dr. Simpson, since the publication of his pamphlet vindicating the use of these agents, has received, from some of the best theologians and most esteemed clergy, communications both written and verbal, approving of the views he had taken.

Dr. Simpson commences by reminding us that each labour pain consists of two distinct and separate elements,

First, of contraction of the uterus and auxiliary muscles, and,

Secondly, of sensations of pain, more or less agonizing, accompanying these contractions, and directly resulting from them. Now the learned Professor maintains, that the Hebrew noun, *Etzebh*, translated sorrow in our version of the bible, distinctly signifies the muscular contraction or effort; and the nouns, *hhil* and *hhebbel*, as distinctly signify the sensations of pain accompanying these efforts, *Etzebh* being the word used in the primary curse:—“In sorrow (*Etzebh*) shalt thou bring forth,” again, in Proverbs, “In all labour (*Etzebh*) there is profit,” &c.; whereas, in other parts of the Scriptures, we find the noun, *hhil*, used to express pain or anguish, as, for example, in Psalms, “Fear took hold upon them there, and pain (*hhil*) as of a woman in travail.” Again, in Jeremiah, “Anguish hath taken hold of us, and pain (*hhil*) as of a woman in travail,” &c., &c.

Thus Dr. Simpson makes out, that whenever, in Scripture, the Hebrew noun, *Etzebh*, is employed by the divine writer, as is the case in the primary curse, it expresses the severe efforts and struggles of human parturition, and not the pangs and agony of childbirth. Therefore, says he, the state of anæsthesia which only annuls and abrogates the sufferings of the patient, against which there is no Scripture authority, cannot be said to be forbidden in the passage already quoted.

Dr. Simpson secondly observes, that if the curse is to be taken as meaning pain, and hence that woman must suffer, then we, of the sex of Adam, are bound to earn our bread by the “sweat of our face,” and by that only, if we adhere strictly to the words of the curse, as far as they apply to us.

3rd. He reminds us that the skill of the accoucheur consists in mitigating and removing, as far as possible, the effects of that curse, by warm baths, aperients, regulated diet, &c.; but, says he, as soon as a means of abrogating the mother's suffering is discovered, the practice is at once denounced as a high sin.

4th. If God had really willed the pains of labour to be irremovable, no possible device of man could have removed them.”

At one time “many pious people had great scruples about endeavouring to emancipate the negroes, on the ground that they were the descendants of Ham, on whom the curse of perpetual slavery had been pronounced,” and it has been pleaded against the emancipation of the Jews, “that to give a Jew a legitimization in any commonwealth, is a plain contravention of the will and word of God concerning that people.”

5th. It is clearly shewn that by the Christian dispensation it is intended that man should not only be regenerated, and advanced in a moral condition, but that his physical sufferings should be more and more ameliorated.

6th. The application of anæsthesia has been pronounced irreligious, because it engenders an unnatural state. This objection is very simply got over, by referring to all the habits and practices of civilised life; clothing, cookery, railways, steamboats, &c., &c.

7th. His final argument, which I do not entirely subscribe to, although a very ingenious one, and given on the authority of a literary divine, is this:—"If pain when carried, as in parturition, to the stage which we call agony, or intense struggle amongst the vital functions, brings with it some danger to life, as I presume no one can deny *must* be the case, then it will follow that knowingly to reject a means of mitigating, or wholly cancelling, the attendant suffering and its dangers, (now that such a means has been discovered) travels, in my opinion, on the road towards suicide." And further:—"It is even worse than an ordinary movement in that direction, because it affects to make God an accomplice, through the Scriptures, in this suicidal movement, nay, the prime instigator to it, by means of a supposed curse interdicting the use of any means whatever, though revealed by Himself, for annulling that curse."

Another religious objection urged against the state of anæsthesia by many, and amongst the rest by Dr. Ashwell, of London, is the danger of the patient dying in the unconscious state. "Supposing (says he) the case to be a fatal one, a circumstance which must occasionally happen, I would not envy the remorse which must follow the conviction, that by such an event the momentous arrangements of a dying hour have been entirely prevented." This objection may be obviated by the patient being previously warned of her critical state; but others answer it by denying the production of entire unconsciousness; and again, it is asked of all who may have witnessed so distressing an occurrence, whether in sudden death, during delivery or immediately after, a state of unconsciousness be not rather desirable than the contrary; the patient being surely "not then in a condition to attend to the momentous question of salvation, for the powers of mind and body are convulsed by the suffering of the moment, and the most terrible restlessness only succeeds to the apathy and unconsciousness of rapid exhaustion." I might occupy the remainder of the lecture by quoting further ob-



jections ; but as I believe I have touched upon the principal, and given their due weight, I hope, to the religious scruples of some, it now remains for us to consider dispassionately the results of the practice.

We must again refer to the published results of Dr. Simpson's practice, for the fullest information on this subject. He states in a paper printed the 1st of October, that since January, 1847, up to that time, he had, in his own practice, delivered about 150 patients under a state of anæsthesia, with the following results to offspring and parents.

1st. *The results to the children.* "In the 150 cases, all the children were born alive except one. In this exceptional instance, the infant was expelled in a decomposed and putrid state, between the 7th and 8th month of utero-gestation." During his subsequent eight-day attendance upon these 150 cases, he lost only one child, which sank under the symptoms of cyanosis. None of the children, to his knowledge, had suffered from "cerebral effusions," convulsions," or "hydrocephalus," or any other of the affections which had been prophesied as certain to befall all such infants as would be born in labours rendered painless by art.

*As regards the results to the mothers,* his practice was by no means so satisfactory. Yet he says, "since following the practice of anæsthesia, my strong conviction is, that I have seen both more rapid recoveries than formerly, and fewer puerperal complications." *Judge for yourselves.* It appears "one patient, however, had a short attack of peritonitis, requiring leeches, &c." She had been bled for inflammatory attacks after two former deliveries, therefore Dr. Simpson thinks that fact satisfactory as accounting for the third attack. In two others of his patients the convalescence was delayed, in one by an attack of the affection described by Dr. Marshall Hall as "intestinal irritation" in puerperal females ; and in the other by a fit of jaundice, which supervened two or three weeks subsequently to delivery, and after the patient had been for several days in the drawing room. Lastly, two out of the 150 died of puerperal fever, then epidemic in Edinburgh and its vicinity. The fact of this fatal disease being prevalent at the time, may satisfy us that the effects of chloroform had nothing to do with the distressing results in these two instances. But I think the worthy Professor goes a little too far, by trying to convince us that anæsthesia offers a kind of immunity from the attacks of puerperal diseases. I am sure the results of the statistics just detailed do not offer any grounds

for the establishment of such an opinion; and the fact of he and other Scotch accoucheurs meeting with still more deplorable results in their practice, when chloroform was not administered, cannot be said to support it, since the mortality and casualties of the 150 cases delivered under chloroform by Dr. Simpson in his *private* practice would be considered here as far from authorizing a conviction on our part, that the recoveries were attended with fewer puerperal complications than ordinarily is the case in *private*.

The results of anæsthesia in the practice of the Maternity Hospital, Edinburgh, are even less satisfactory than those already quoted as Dr. Simpson's experience in private practice. For it appears out of 95 women delivered in the Maternity Hospital under the influence of chloroform, three died, one of "convulsions coming on five hours after delivery, and proving fatal after a continuance of six days;" another died from sloughing of the maternal passages, attributed to long impaction of the head in the pelvic brim, requiring the application of the long forceps; and the third died after the operation of turning, from rupture of the uterus.

The mortality amongst the children was also excessive, viz., eight were still born: of these, two are said to have been premature, being at the sixth month; and in a third instance, the death of the child may be accounted for by the fact of the cord being prolapsed; and perhaps a fourth dead child born with a very large hydrocephalic head; but I doubt if the fact of a woman having borne two dead infants in previous labours, can be cited as satisfactorily accounting for the third being also still-born. Notwithstanding these acknowledged facts, we are told, "on the whole the results of anæsthetic midwifery (in that hospital) have been perfectly satisfactory." And it is confidently stated "that the recoveries have been altogether more perfect and speedy than before.

Most of the Edinburgh accoucheurs have, it would appear, become converts to anæsthesia, and all bear testimony in its favour. Dr. Moir says, "Since the beginning of December I have, with a very few exceptions, used chloroform in the course of my midwifery practice, and I have not met with a single case where any unpleasant effects, either to mother or child, can be traced to its use."

Dr. Malcolm, of Edinburgh, states, "Since November last I have employed chloroform in above thirty cases of labour, and with the most satisfactory and delightful results." He kept his patients (the majority of whom were primipara) under its influence for periods varying from half an hour to six hours, and never found the

slightest unpleasant effects result from its use. He generally employed about an ounce of chloroform per hour; had never seen the uterine contractions arrested by its use, nor a case of hemorrhage or convulsions, or any complication whatever.

Dr. Cumming says, "I have now attended thirty-five cases of labour under chloroform, and it has been used in all with marked advantage." All his patients made unusually good recoveries. Two of the patients had flooded largely in previous labours; with the chloroform there was none.

In short, he says, he is rapidly approaching to, if indeed he has not already arrived at, the conviction, that *if there be* any sin connected with chloroform it is chargeable on those who refuse to administer it.

Dr. Protheroe Smith informs us that he has records in his own practice, and in that of his friends, of upwards of 125 cases of anæsthetic labour, and, with one exception all have done well. "In none could there be fairly attributed to these agents any injurious results, although amongst his published cases will be found included some of the most formidable exigencies which the obstetric practitioner is called upon to meet."

Mr. Lansdowne, of Bristol, writes Dr. Simpson, he had used ether or chloroform now in seventy-one midwifery cases. The greatest length of time he had continued the anæsthetic state was 16½ hours, a fresh inhalation being made at every renewal of the action of the uterus. Nearly all his patients recovered very rapidly; most of those who had had children previously were astonished at the unusual rapidity of their recovery. He had cured after-pains with it; and had never found sickness to be produced, except where fluid had been previously taken; and concludes by stating, that he had never yet met with anything which had caused him to regret having used it.

These are but a fraction of the flattering testimonials set forward by Dr. Simpson, in favour of the administration of chloroform; however, they will serve to give you an idea of the unmeasured terms in which the practice is lauded abroad by Dr. Simpson and his followers.

In an admirable pamphlet published by Dr. William Merriman, of London, against the indiscriminate use of chloroform in midwifery, he admits the propriety of administering it in certain cases of tedious labour, where the patient has been wearied out from the occurrence of false pains, or should the condition of the woman be

such as to cause great fears that she cannot endure the pain of the birth without suffering material injury; he however shows "that such cases can be very few in number, and scarcely come under the limits within which interference with nature can be allowed with impunity." Before having recourse to chloroform he recommends other measures invariably to be tried first.

*(To be continued.)*

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A SERIES OF PAPERS ON CHLOROSIS.—By RAY CHARLES GOLDING, M.D., London.

*(Continued from Page 15.)*

6. Of the phenomena attending the action of the heart, and of the circulation generally, during the chlorotic state, much has been written. The subject may be considered under the three following heads:—

A. Of abnormal pulsation, and of the peculiarities of the chlorotic pulse.

B. Of the morbid sounds heard over the heart, over the great arteries, and along the neck.

C. Of the derangements of the pulmonic and systemic circulation, occurring during chlorosis.

A. The inordinacy and irregularity of the heart's pulsation is due to two causes:—

a. To derangement of the nervous system, a part only of the general derangement of that system so prominent a feature of chlorosis:—here, the heart acts inordinately, its pulsations become more frequent, its impulse is also increased. This increased action is usually paroxysmal, directly induced by a mental effort or bodily exertion, and is more violent the more suddenly applied; the exciting cause inducing it is, it bears a more direct ratio to the inherent susceptibility of the nervous system in special instances, than to the impoverished condition of the blood, abstractedly considered.

β. To the condition of the blood peculiar to chlorosis. To this cause is due, I imagine, most of the cardiac symptoms of

chlorosis. The natural stimulus to the heart's action, viz., the blood, being defective, every portion of the parietes does not act sufficiently consentaneously to close the auriculo-ventricular valves; irregular action results, and certain physical phenomena are present, to be considered in the next section. To this state of the heart paroxysms of dyspnoea are frequent, from temporary disturbance to the pulmonary circulation occasioned thereby; angina pectoris also.

The pulse of chlorosis attending these conditions, severally or combined, is bounding, jerking, very quick, and occasionally intermittent, (the pulse of *unfilled arteries*.) However *hard* it apparently is, it is, however, always *compressible*, falling directly after however small an amount of depletion. It may not inaptly be termed *the pulse of reaction from a depressing cause*, not of *reaction from a stimulating one*, as is the pulse of inflammation.

B. A bellows murmur and purring tremor, as accompaniments of chlorosis, have been recognised since Laennec's time, and have received the name *inorganic*, to distinguish them from *similar* phenomena dependant on permanent patency of the cardiac valves from disease, and therefore termed *organic*. Laennec did not give either a clear or correct account of them, since he described the bellows murmur as *diastolic*, a fact now known to be incorrect; but he distinctly asserted their *arterial origin*. Dr. Hope impugned both these opinions, stating that the murmur was when distinctly of arterial origin *systolic*; but that the chief seat of such murmurs was *the veins*. This, Dr. Hope asserted, was the case, whether the murmurs in question originated over the base of the heart, along the neck, or over certain parts of the abdomen, which he examined. He was also of opinion that the veins mainly elicited the placental murmur of the pregnant uterus. Thus, then, he admitted an *arterial systolic bellows murmur*, and a *continuous venous murmur*. The reasons asserted by Dr. Hope for his opinion were two: the *subjacent position of a vein* to the part listened over, and the *continuity* of the murmur; the former of these was by no means so important a peculiarity attending their elicitation as the latter, since it is difficult to listen over a vein, making due compression for that purpose, without influencing a contiguous artery; whereas the *continuity* of the murmur was quite irreconcilable with an arterial origin, seeing that the *per saltum* passage of the blood from the ventricles during their systole along the arteries, was the only state of these vessels

during which a murmur could be audible; *eryo*, its *continuity* was *prima-facie* evidence of its venous origin, in Dr. Hope's opinion.

With the greatest deference to so high an authority, I am about to offer another explanation of *inorganic murmurs*, the result of extended inquiries into the circumstances of their production; and as such explanation hinges on certain well-admitted physiological and pathological conditions, the latter will be briefly detailed as illustrative of the *explanation* itself.\*

The highly *vital* and purely *animal* endowment of irritability resident in the muscles, requires for its due exercise a healthy condition of the blood; since when that fluid is defective, lassitude and muscular debility are prominent symptoms. This applies as well to the involuntary as to the voluntary muscles, and peculiarly so to the heart, the direct stimulus to whose contractions is, the *blood itself*. The state of the blood in chlorosis is just what *a priori* reasoning would lead us to infer would impair muscular irritability, generally, viz., *want of due stimulation by the blood*. This want of due stimulation causes impairment of *irritability*, then inefficient contraction, and where a large mass of muscular substance is concerned, *irregular contraction*; some fibres being more irritable than others, acting better. It is highly probable that irritability varies in degree not only in different muscles, but in the several fibres of the same muscles, of which the heart itself is a striking example.†

Such facts being admitted, two circumstances come prominently forward:—*a.* That as the blood is the *natural stimulus* to the heart's *irritability*, any diminution of that *stimulus* impairs that *irritability*, inducing thereby *irregular contraction* of its individual fibres. The same broad fact may be stated as applicable to other muscles during the chlorotic state. *β.* That the tone of the *muscular tunic of the arteries* is impaired from the *diminished stimulus* of the blood.

The view about to be advanced on the *cause of the inorganic murmurs of chlorosis* sets out, therefore, with the assumption, that as the blood is the normal stimulus to the heart's contraction, as well as to the tone of the muscular fibres of the arterial walls, that

\* It may be remarked here, that Hope's improvement of Laennec's theories of morbid physical signs of the heart and large vessels, was due to his knowledge of the causes of the *sounds of the heart*. In Hope's time, Andral's deductions on the state of the blood in chlorosis had not been made.

† An obsolete name for the right auricle is *auricula ultima moriens*, since its irritability remains longer than either of the other three cavities.

such stimulus acts with greater energy the greater the perfection of that normal stimulus, and with the less energy the greater its defect.

These murmurs are *systolic*—are best heard over the base of the heart, the great vessels generally, and along the neck.

The immediate consequence of such impairment of the heart's irritability (mentioned just now) is, that the fibres of the ventricles (especially of the left) do not act as consentaneously, or with the amount of tonicity, necessary for keeping the auriculo-ventricular apertures closed during their systole; the result is, regurgitation into the auricles, and the elicitation of a *systolic bruit*; impairment of the *rhythm* resulting therefrom induces the purring tremor (*abnormal vibration of the thoracic walls*): this is the more appreciable the greater the derangement of the rhythm, and the more regurgitation existing: it bears, therefore, a pretty constant ratio of intensity to the bellows murmur.

The cause of the transmission of the systolic murmur (with or without a purring tremor) along the neck, and along the course of the large arterial trunks, I am disposed to explain as follows.

Taking for granted that the *muscular action* of the arterial walls materially assists the natural resiliency of the *elastic tunic* in restoring these vessels to their former undistended state, in that manner keeping up a regular current towards the capillaries, it follows that with a want of the due stimulus to the efficient contraction of these fibres, (the same applying to them as to all other muscular fibres,) *irregular contraction* results; so that the bore of one portion of the artery would be greater or less than other portions even of the same vessels. I need not state how such *irregularity of calibre* would elicit a murmur, since the same physical condition obtains as when a healthy artery is compressed by the auscultator in any part of its course, and a systolic murmur elicited in consequence. It is only necessary also to state, that as the second sound is a mere mechanical effect of the force of blood closing the semilunar valves of the aorta and pulmonary artery, *attending*, but in no respect dependent on, the *diastole* of the ventricles, that when *diastolic* murmurs occur in chlorosis, that such must result from permanent *patency* of these valves from disease. The two causes just specified explain the cause of the *systolic* chlorotic murmur; the *continuous* murmur of Hope remains to be accounted for.

Pressure with a stethoscope on an artery in a healthy person elicits a *systolic murmur*; pressure on a vein under similar circum-

stances will not elicit a *continuous murmur*. This experiment can of course easily be made, and its accuracy determined.\*

Simultaneous pressure of large arteries and veins, either by the stethoscope, by the ear of the auscultator, or by muscular action, would, of course, be equally efficient in inducing either *arterial systolic murmurs*, or *venous continuous murmurs*; yet what obtains in chlorosis? A systolic murmur is audible, over the heart, (with or without the *purring tremor*,) and over the large arteries near it, as the carotids and subclavian: in examining the neck in its normal posture, however great the pressure employed for its detection, no *continuous murmur* can be elicited; but raise the chin, evert the neck, and throw into action the platysma, and a continuous murmur becomes audible, and that so loud oftentimes, as to annihilate, during its continuance, the *systolic murmur* previously alone audible. Keep the stethoscope firmly applied, with the ear at its distal end, and the position of the auscultator unrestrained, then lower (or teach the patient to lower) the chin, and relax the neck, and the *continuous murmur* will cease, and be supplanted by the ordinary *arterial systolic bruit*. By alternating the motions of tension and relaxation of the neck, just specified, the *continuous murmur* supplants or is supplanted by the *systolic one*: a *continuous murmur* I have never heard to emanate from the chest itself. Thus, then, the continuous murmur is imagined to depend on muscular action; but why should it not always exist? In answer to this, I think that when muscular action is *regular* (which always obtains where the blood is good) that it is not heard; whereas, when *irregular*, as when the blood is defective, that it is alone audible, and then during *slight* contraction: for it may be noted that the audibility of the *continuous murmur*, and the amount of tension required for its

\* It may as well be here intimated (a fact well known) that a *continuous murmur*, identical in all essential peculiarities with that heard along the neck in chlorosis, can at any time be made audible by applying a stethoscope over a muscle when *violently* contracting: it is also audible when, by clenching the teeth, with the head opposed to a resisting medium, the masseter and temporal are *violently* contracting: in neither instance is it audible when the muscular action, though regular, is *not forcible*. The same murmur is often heard during thoracic examination in cold weather, when the skin quivers from cold, and is then often loud enough totally to obscure all intra-thoracic sounds. It usually also obscures the arterial systolic murmur of chlorosis, when the latter is also elicited along the neck. It closely resembles the distant sound of wheels on a rough road.



perfect elicitation, varies with the state of the blood, being invariably the more intense, the greater the defect of the red globules; also that it is more audible, the greater the demand made on the irregular action in question. \*

To elicit sound of any kind, the parts eliciting it must be in a state of tension. It is the irreconcilableness of such a state in the veins in their healthy state, or of any physical condition of the blood itself known to exist in chlorosis, which has always made me imagine that some other than the veins must be the cause of the *continuous murmur* of chlorosis; whereas the tension of patulous cardiac valves, acted on through their cordæ tendineæ by the *Carotæ columnæ*, as also of certain parts of muscles and of the *muscular tunic* of arterial tubes more *tonically* contracted than others, readily explains their production. The contraction of the heart being *clonic*, only enables, even in chlorosis, a systolic murmur to be audible, and that in consequence of patency of the *auriculo-ventricular valves*. For a similar reason the murmurs of organic valvular patency are more intense the greater the impoverishment of the blood, becoming less with its improvement; hence the efficacy of calybeates in many instances, as Dr. Scott Alison has ably proved.

Thus then, if the foregoing conclusions be correct, the *systolic murmur* of chlorosis is due to irregular contraction of the valves of the ventricles, causing auricular regurgitation, and to irregular contraction of the calibre of the large arteries; the *continuous murmur* heard along the neck is due chiefly to irregular tonic contraction of the *platysma myroides* muscle, probably also by that of the other muscles of the neck, similarly circumstanced. There is every reason for imagining that the continuous murmurs of Hope heard in the abdomen, were also due to muscular action. I have satisfied myself that many I have heard so elicited were due to that cause. The pitch of the systolic murmur varies, so that different names have been applied to it under divers circumstances, to wit: *Bruit de Soufflet, de raps, de Diable, &c.*

Of little need be said under this head, save that the pulmonary circulation is seldom deranged to any great extent. When the action of the heart is much deranged, the breathing may be difficult, and paroxysms of dyspnoea supervene. For phthisis, no comment is

It may sometimes be audible over the great pectoral and other superficial muscles, although the platysma, from its connection with the skin itself, elicits it better than most other muscles.

special predisposition must exist, or attacks of bronchitis (causing congestion of the lungs) be frequent. It is not unusual to find such cases, when so circumstanced, terminate in phthisis, but not otherwise, as the most confirmed cases of chlorosis may last for years, and yet not be attended by any serious pulmonary complication. The sound on percussion over the lungs during chlorosis is preternaturally clear. Dr. Stokes accounts for this on the supposition that less blood is present in the lungs, consequently more air is retained in the air cells than is usual. The same thing is noticed in other *hypæmic* maladies. The dropsy of chlorosis is immediately due to the impoverishment of the blood, but as with this phenomenon there is atony of the textures generally, a retardation of the return of the blood towards the heart, especially along the lower extremities, and impediment to the onward passage of the blood through the heart itself, it is difficult to say, in many cases, how much the occurrence of this complication is due to either of these conditions severally, or to all of them combined. The rule, however, is, for the dropsy to be greater, the more the blood is impoverished; therefore the more confirmed the chlorosis, the greater the serous effusion.

(To be continued.)

CLINICAL REPORTS ON THE DISEASES OF CHILDREN, ILLUSTRATED WITH CASES AND DISSECTIONS.—By J. M. COLEY, M.D., CONSULTING PHYSICIAN  
Accoucheur, &c., &c.

(Continued from page 19.)

*Treatment.*—A few leeches should be applied to the temples or behind the ears, according to the seat of the disease, and ice, or a freezing mixture, should be applied in a bladder over the inflamed part as often as the pain is severe and alarming to the patient. The freezing mixture may be made by mixing three ounces of nitr. potass., and the same quantity of chloride of soda, with a pint of cold water. The patient should also take one or two grains of chloride of mercury, and two or three grains of compound powder of ipecacuanha once in four hours, until the gums become sensibly affected

or the pain has been removed. Attention should be paid to the state of the bowels, and the catheter used when retention of urine occurs, to prevent the troublesome effects of enuresis, which is apt to take place when the distended state of the bladder is overlooked.

After the gums become affected the pain almost invariably subsides, and the idiotic state of the patient is removed, together with the distracting agitation, and almost incessant contortions of the body and extremities, by which alone he is able to express his sufferings during the absence of proper articulation, which, in extreme cases, usually prevails. In some rare cases the pain, after the mercurial action has commenced, assumes an intermittent character. In this state the most successful treatment will be found to consist in the exhibition of disulphate of quina or arsenite of potash in full doses once in six or eight hours.

*Case.*—A boy, ten years old, of the name of *Bowen*, was admitted on Aug. 29, at the Royal Pimlico Dispensary. He had been attended three or four weeks by Mr. Driver, a very attentive and promising young surgeon, who very kindly interested himself in the case by watching its progress after the patient had been placed under my treatment. I found from Mr. Driver's history of the case, that it had been one of inflammatory typhus, which had terminated in idiocy and loss of speech, accompanied with involuntary discharges from the bladder and rectum. He had, at the commencement, the ordinary symptoms of sub-acute meningitis, which, in the progress of the disease, had extended to the dura mater, so that on the morning of his admission he screamed in the most pitiful manner, at frequent intervals, with pain, which he was unable to express otherwise than by uttering unmeaning noises and rolling in the bed. During these paroxysms his head was sometimes thrown, with careless violence, against the bed, and at other times his knees were drawn up close to the abdomen, while his hands were directed towards the sides of the head, as if expressive of pain in those situations. In the evening the paroxysms were more severe and alarming, and, therefore, leeches were applied to the temples, and two grains of chloride of mercury, and four of Dover's powder, given once in four hours. As the inflammation of the dura mater appeared to be confined to the right side of the head, where it was covered with the temporal muscle, the external heat was not so obvious as it is in those cases in which it is seated in the front or top of the cranium. On Sep. 2nd he became more easy and tranquil, and was able to speak distinctly. He then in-

formed me that the pain which occasioned his violent writhings and convulsive movements was seated within the cranium, opposite the right temple. The calomel and Dover's powder were continued until the 3rd of September, when the patient became quite free from pain, and could articulate in the most perfect manner. The medicines were now omitted, and he passed an excellent night; and on the following day, being perfectly free from pain and convulsions, he became impatient to leave his bed. In the afternoon, while sitting, he was suddenly attacked with a shooting pain on the top of the head, which greatly alarmed him. It was, however, only transitory, and, after the use of an opiate embrocation, speedily subsided, and he has continued perfectly well up to the present time.

3. ON HYDROCELE.—The most common species of hydrocele is that which consists of a collection of fluid within the tunica vaginalis testis, which cannot be forced into, and has no connection with, the cavity of the abdomen. The disease is usually produced by some injury after birth. It is, however, sometimes congenital. The exact condition of the tunica albuginea in connexion with hydrocele has attracted little notice; authors being contented to observe that, when it occurs in adults, this membrane is sometimes found considerably thickened. In children, when they happen to die with this disease in addition to some fatal malady, affording us an opportunity of making a post-mortem examination of the parts, we have opportunities of noticing the pathological condition of the albuginous tunic in the commencement and progress of hydrocele. Such opportunities have occurred in the course of my practice. The morbid appearance of the albuginea, which has presented itself to my observation in every instance, has been found by me to consist of a chronic inflammation of its free surface, represented by an obvious vascularity in some portion of the membrane. The vascular appearance corresponds with that which is discoverable in the peritoneum, and other serous membranes, affected with chronic inflammation in conjunction with serous effusion; coloured vessels being prominent, and radiating in various directions, when the disease is of recent formation. I have observed the same vascularity in the incipient hydrocele of adults; but in the more confirmed stage of the disease, as we find it in men advanced in life, who have been many years afflicted with it, or who have undergone ineffectual operations for its cure by injection, the tunica vaginalis will be discovered to be thickened and indurated; and its free surface rendered irregular, or converted into distinct cells by false membranes. Ruysch was of

opinion that the collection of serum is produced by a varicose state of the spermatic vessels, and Mr. Pott, without noticing any particular state of the membrane by which the fluid is deposited, was satisfied to remark in a general way, that "whatever tends to increase the secretion of the fluid into the sacculus beyond the due and necessary quantity, or to prevent its being taken up, and carried off, by the proper absorbent vessels, must contribute to its production." This was the doctrine taught by our predecessors in all the schools of Europe, and, hence, all dropsical effusions were supposed to be occasioned by pressure, and by the want of a proper balance between the secreting and absorbing vessels. We may, however, derive external evidence of the existence of chronic inflammation within the sac, by observing the soreness always manifested in infants on the least compression being applied to the scrotum.

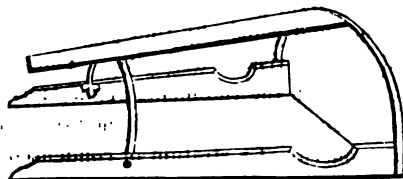
*Treatment.*—When I wrote my Treatise on the Diseases of Children, I had not met with any case of hydrocele in infants, which was not curable by the compound mercurial liniment, or that of iodide of potash, or by lotions composed of some preparation of ammonia, or other stimulant capable of exciting counter-irritation on the skin. Having seen the disease on a more extensive scale since my residence in London, I have met with several instances in which it has resisted this ordinary mode of treatment. All such cases have been speedily cured by the application of leeches, which I have been induced to apply over the swelling from a conviction that the deposit of the fluid is produced by an inflamed state of the vessels of the tunica vaginalis. The immediate effect of the bleeding is the removal of the tenderness in the affected part, and the result is a speedy and permanent absorption of the effused serum.

4. IMPERFORATE ANUS.—When the seat of the obstruction, or the termination of the intestinal canal is so remote from the anus as to be separated from that part to a great distance, the result of any surgical operation is often unsatisfactory, either in consequence of the impossibility of finding the end of the rectum, or the difficulty of preventing the subsequent contraction or obliteration of the artificial passage. All practical surgeons admit these facts. There are some cases, however, in which the arrest of development has not been so extreme, and which, by timely and proper treatment, may be remedied without risk or difficulty. The cases, to which I allude, are those in which the rudiments of the anus exist, and the obstruction intervening between that and the preternatural termination of the rectum consists of a stratum of condensed cellular mem-

brane, which readily admits of a passage, being formed by the assistance of a trochar and the subsequent employment of bougies. The following unfortunate case was an instance of this kind.

*Case.*—On the 17th of May, 1847, a male infant of the name of Crisp, was born in Westminster, and on the 20th was conveyed, by the nurse, to the Western Dispensary for my advice. On examining the infant I found him dead, but still warm, having died on his way to the Institution, after suffering severe pain, vomiting, and other symptoms of obstruction in the intestines, during the two previous days. No evacuation had taken place from the intestinal canal, although castor-oil, and other purgatives, had been administered, and attempts had been made by a surgeon to enlarge the diameter of the impervious opening in the anus by various bougies. No benefit, as might have been expected, having been derived from these means, no further surgical proceeding was contemplated, and the infant was left to his fate. Being of opinion, derived from the appearance and an external examination of the anus, that a proper surgical operation might have saved the infant's life, I requested one of my late colleagues, Mr. Storks, surgeon to the Institution, to assist me in a post-mortem exploration, which took place on the third day after death. We found, as we anticipated, the aperture in the anus terminating in a cul de sac, extending only to a distance of one-fourth of an inch, and as the fulness of the parts above, which had produced a projection of the anus, plainly indicated the proximity of the distended rectum, we exposed the parts above the obstruction, and discovered that it consisted of a thin septum of condensed cellular membrane, which separated the intestine from the cul de sac. It was obvious that a very simple operation, effected by the knife or trochar, would, if timely performed, have afforded immediate relief, and the perfect recovery of the patient accomplished by the regular use of bougies.—(*To be continued.*)

*Acuvrio.*—An instrument used formerly in Florence to protect infants from being suffocated in the bed-clothes. The frame is merely put over the child, and the mother's breast given at the side without removing it.



CATECHISM OF OBSTETRICS, FOR MEDICAL STUDENTS AND JUNIOR PRACTITIONERS.—By J. E. PATTISON, Esq., LONDON.

(Continued from page 24.)

**Q. 24.** Is it easy to ascertain and describe the manner in which the foetus is summoned into life by the efforts of nature ?

**A.** No ; according to Nægele it is a most difficult task, requiring opportunities, time, candour, the entire absence of previously received opinions, and a mind honestly open to the truth. It is at the same time absolutely necessary for the conscientious obstetrician to be fully acquainted with it, for on it depends a correct insight into the various obstacles to be overcome during labour.

**Q. 25.** What is the presentation that occurs most frequently ?

**A.** That presentation of the head which occurs most frequently is that in which the head presents, not with the occiput, but with the vertex—in fact, with the right parietal bone, the posterior fontanelle being turned toward the left acetabulum at the time of labour—this is called the first or most frequent position. In an examination, in the earlier periods of labour, in this presentation the right parietal bone in the vicinity of its tuber will first meet the finger.

**Q. 26.** What direction does the head take at the entrance of the pelvis ?

**A.** A perfectly oblique direction, so that the part which lies lowest or deepest is neither the vertex nor the sagittal suture, but the right parietal bone.

**Q. 27.** What occurs when the head arrives at the lower outlet ?

**A.** When the head arrives at the lower outlet by continued pressure of the uterine contractions, the posterior fontanelle at last gradually moves itself by slight degrees, repeated at equal intervals, in a direction from left to right (frequently more or less from above downwards), and the occipital bone advances from the side of the pelvis under the arch of the pubis. It is not, however, the entire of the occiput that advances under the pubal arch, but the head approaches the os externum with the posterior and superior part of the right parietal bone, and remains in this position until it has passed through the outlet of the pelvis with the greatest circumference which it opposes to it, when it then turns itself with the face completely towards the right thigh of the mother.

**Q. 28.** How can it be ascertained that the head passes thus obliquely through the external parts ?

*A.* By tracing the sagittal suture, which will be found running obliquely from left to right, and by examining the tumour of the scalp, which, after delivery, extends behind and above the tuber parietale, upon which the primary tumour, formed by the circle of the os uteri, was situated.

*Q. 29.* Describe the head in the second position.

*A.* When the head is in the second position its longitudinal diameter corresponds to the right oblique diameter of the pelvis, and it is placed obliquely, as in the former case, acquiring the second obliquity as it descends; and it passes through the pelvis and lower outlet precisely in the same mode as in the first position, only that the slight rotation is from right to left, and that when expelled it completes the quarter turn, bringing the neck under the arch of the pubis.

*Q. 30.* Describe the third position.

*A.* In the third position the anterior fontanelle corresponds to the left acetabulum, and the posterior to the right sacro-iliac synchondrosis at nearly the same level, until the pressure occasions one or other, generally the posterior, to descend. The sagittal suture divides the os uteri obliquely and unequally, and the tumour of the scalp is found upon the tuber parietale of the left side, and rather anterior to it, and the finger passed in the centre line impinges upon it. Nægele states that as soon as the head is engaged in the cavity of the pelvis the great fontanelle turns towards the descending ramus of the left ischium, and both can be felt at an equal height as to each other. As soon as the head experiences the resistance which the inferior part of the pelvic cavity opposes to it, or in other words, the oblique surface which is formed by the lower end of the os sacrum, by the os coccygis, the ischiatic ligaments, or by which it is compelled to move from its position backwards, in a direction forwards, it turns by degrees with its great diameter into the left oblique diameter of the pelvic cavity, i.e., the posterior fontanelle is directed to the right foramen ovale, and as the head approaches nearer and nearer to the inferior aperture, it is the posterior and superior quarter of the left parietal bone which is felt in the cavity of the pelvis opposite to the pubal arch; so that when the finger is introduced under, and almost perpendicular to, the symphysis pubis, it touches nearly the middle of the superior and posterior quarter of the left parietal bone; and this is precisely the part, as the head advances further, which first distends the labia, with which the head first enters the external passage, and the spot



upon which the swelling of the integument forms itself. The head is thus changed from the third position into the second, and so passes out, the face generally turning towards the left thigh of the mother.

**Q. 31.** Describe the fourth position, according to Nægele.

**A.** In the fourth position the posterior fontanelle corresponds to the left sacro-iliac synchondrosis, and the anterior fontanelle to the right foramen ovale; and as the head is pressed through the cavity of the pelvis changes analogous to those first described take place, but in the opposite direction, that is, the head is turned from left to right, so as to bring the posterior fontanelle towards the left foramen ovale; in other words, that as the head is changed from the third to the second position, so from the fourth it changes into the first; it then passes out exactly as it did when presenting in the first position. The primary tumour will be on the right parietal bone, anterior to the tuber; but the pressure of the lower outlet will extend it over the tuber to the upper and back part of this bone.

**Q. 32.** In the diagnosis of the positions of the head, will the movements of the child being felt more on one side than the other give us any certain knowledge as to its exact position?

**A.** In relation to this, Nægele states, that when the movements are felt more on the right side, as is most frequent, we may presume the head to be in the first position, and when on the left side, in the second.

**Q. 33.** Will the stethoscope afford us any conclusive information in ascertaining the positions?

**A.** As the changes of position of the fœtus in utero are frequent, in many cases, even to the last month of pregnancy, the stethoscopic indications of position are not of much avail. In some cases, however, the child takes up its position at an early period, and does not change it till birth—thus M. Nægele observes, "if, in a case of vertex presentation, the pulsations of the foetal heart are distinctly heard in the left inferior abdominal region, diminishing in intensity as the ear leaves this part, but extending upwards and forwards, and continuing audible as far as the linea alba, or even beyond this, it may be presumed that the head occupies the first position. We are warranted in supposing that the head is situated in the second position if the heart's pulsations are most distinctly heard in the right side of the abdomen.

**Q. 34.** Explain the nature of the tumour of the scalp, and its indications as showing the presentation.

**A.** This tumour consists most frequently of serum, sometimes with blood mixed, and in a few cases of blood alone. It is formed by the pressure of the head against the openings through which it has to pass, *i.e.*, first against the lips of the os uteri, and, secondly, against the circumference of the vaginal orifice, and it always forms on the lowest or presenting part, so that the primary tumour indicates the part of the head which presented at the os uteri, and the primary and secondary together that which occupied the lower orifice.

#### VARIETIES OF MOTOR ACTION.

**Q. 35.** To whom are we indebted for an explanation of parturition as a motor function?

**A.** To Dr. Tyler Smith\* in his series of valuable lectures published in the *Lancet*, commencing in the year 1847; many years previous to this date, however, experiments had been made by M. Serres, Brachet, and Segales, to show the direct connexion between the spinal chord and the womb, the exact nature of which they never attempted to demonstrate as a reflex spinal action.

**Q. 36.** Enumerate the several varieties of motor action according to Tyler Smith's analysis.

**A.** The different kinds of motor action influencing parturition are the voluntary, the emotional, the excito-motor or reflex, and, lastly, the penstaltic or immediate.

**Q. 37.** How does volition influence parturition?

**A.** The uterus is altogether removed from the direct influence of voluntary motion; the will has no direct power either to contract or dilate this organ. Labour may take place where cerebral paralysis exists, the will being entirely in abeyance; the movements dependent on reflex action, and penstaltic action, all remaining perfect.

**Q. 38.** Explain how volition may affect the womb indirectly.

**A.** Experience in obstetric practice teaches us that in some cases of perfect inactivity of the womb, that powerful voluntary efforts will occasionally bring on again the labour pains, by causing the abdominal muscles to compress the womb mechanically, thus stimulating it, and exciting it to contract in the same way as pressure of the hand over the uterine region would do.

**Q. 39.** In what manner does emotion, as a motor power, affect the womb?

**A.** The varied passions of the mind, from the comparatively

\* This doctrine was known long before Dr. T. Smith's time. The merit of revival is not that of discovery, even in the former Dr. Smith was preceded by three or four authors.

happy state of hopeful feeling that some women, even during the active state of labour, enjoy in the prospect of its being soon all over, and a child born into the world, to the dark despair that others indulge in, who frighten themselves in the apprehension of cross births—males—monsters, &c., and of the impossibility of the child ever being born, as emotional motor powers, exert a very considerable influence on the womb; even a harsh word from the obstetrician on the mind of a delicate and sensitive female, will cause at times the labour pains altogether to stop for a period, from the effect the sudden emotion has on the womb. When the child is born, the most natural contraction of the womb is often caused by the emotion of the mother at the sight of her infant.

**Q. 40.** How does emotion act as a motor power?

**A.** According to Dr. Tyler Smith, emotional action, like volition, is psychical in its nature; but it acts upon the muscular system through the medium of the spinal marrow, the great organ of physical motion. This is evident from the fact, that emotional movements may occur in parts which are entirely paralysed to cerebral voluntary motion.

**Q. 41.** Does emotion accompany the voluntary efforts of the last stage of labour?

**A.** Yes; it is often noticed that as the labour pains increase, so does the emotion; so that towards the termination, the patient, in passionate emotion, struggles furiously with the pains thus powerfully increasing, or preventing the reflex and voluntary action.

**Q. 42.** Explain further the part that emotion, arising from physical pain, plays in labour.

**A.** It is one of the causes of uterine contraction; it relaxes the glottis under circumstances of danger; and, by removing the expiratory pressure from the womb, lessens, in a very remarkable manner, the risk of rupture or laceration.

**Q. 43.** Is the physical pain of labour beneficial?

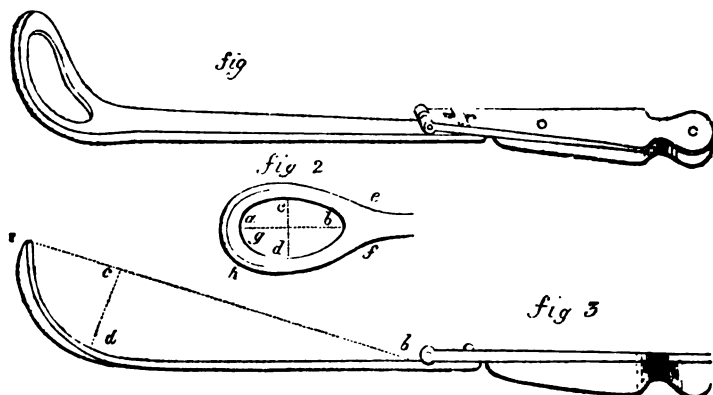
**A.** The pain itself is a great trial; still, all things considered, in a large number of instances the pain is beneficial; volition, sensation, emotion, and the respiratory actions, may, however, be entirely withdrawn, as in patients delivered in a state of profound coma, or during the anæsthesia produced by chloroform, or in sleep, or with the cerebral influence permanently removed, as in paraplegia, from disease in the middle portion of the spinal marrow: labour, in these instances, being performed solely by the instrumentality of the excitomotor power of the womb, and its peristaltic action.—(To be continued.)

**DESCRIPTION OF A NEW OBSTETRIC TRACTOR VECTIS,  
WITH CASES ILLUSTRATIVE OF ITS ADVAN-  
TAGES.—BY JAMES OGDEN, M.D., M.A., F.L.S., AND MEM-  
BER OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON, &c.**

In submitting to the profession a description of my improved obstetric Tractor Vectis, it is proposed to shew the mode of its application, and the safety and facility with which it may be used in most of the obstinate and difficult cases which occur in practice. That it is not done on mere hypothetical and speculative grounds my professional brethren will give me credit when I state that it is well known to many of my friends that I have been using this instrument during, and beyond, a period comprising more than twenty years, having attended upwards of 10,000 cases of midwifery since I fully remodelled, and wholly adopted for general use, the instrument in question; and previously thereto, may be included, at least 3,000 additional cases. From this ample field of practice I can hardly be accused of arrogating to myself, upon hasty and immature conclusions, the declaration of my settled conviction as to the superiority of this instrument, and that over every other kind appropriated to the like purpose of affording assistance under the difficulties attendant on dangerous and protracted labours; without its aid an equal degree of success, to which I may presume I have had, would not have fallen to my share, especially as regards the accomplishing of delivery, safely to the foetus, and the alleviation of parturient sufferings, together with the comparative little hazard to the future health, comfort, and general safety, of the mother. The utility and preference of the Tractor Vectis consists mainly, as its name imports, in being used as an extractor, and not as a lever of the first species, on which latter principle the forceps, partly, and the lever, often wholly, acts, thereby superseding the dangerous necessity of pressing equally, and violently, upon the head of the foetus, and the bony and soft parts of the mother, and thus incurring the perilous consequences of forming a fulcrum on the inner side, and lower edge, or border, of the horizontal ramus of the pubis, or, worse still, on the inner side of the symphysis over the meatus urinarius. Hence have the structures of the unfortunate mother been, not unfrequently, especially with junior practitioners, irreparably injured, and life itself endangered. Such melancholy results undoubtedly

have frequently fallen under the observation of the generality of practitioners. It is only the ignorant and careless to whom these remarks properly apply when intrusted with instruments especially liable to be abused.

The general appearance and nature of the instrument now submitted to the profession will be readily understood on reference to the figures. A more detailed account, however, is necessary in order fully to understand the differences between it and the vectis in ordinary use.



Firstly, the length of the instrument, before being curved, is  $13\frac{3}{4}$  inches. From this it will be seen that it is of sufficient length to admit of its application to the foetal head before it has passed the brim of the pelvis. When curved, as represented in the drawing, it measures  $12\frac{1}{2}$  inches. The blade, measured from the joint, is, before being curved,  $8\frac{1}{2}$  inches:—after having been curved, and when taken in a straight line, from the inner part of the hinge or joint to the point beyond the fenestra, as shown by the line *a b*, fig. iii.,  $7\frac{1}{8}$  inches. This line forms a segment of an imperfect ellipse, the radius of which, or the line *c d*, fig. iii., measures, in its greatest extent, an inch and a half. The handle of the instrument measures  $5\frac{1}{2}$  inches, and, as in the common vectis, is provided with a hinge, so that it is, when folded, received into the concavity of the blade. The weight of the entire instrument is eight ounces. This is necessary to ensure its being of sufficient strength. But it is chiefly in the shape and peculiar curves of the fenestra that the claim to originality rests. By these peculiarities, as will be shown presently, a more secure hold, as an extractor, is obtained on the *chin* or *occiput*.

The diameters of the fenestra are—the longitudinal (*a b*, fig. ii.)  $1\frac{1}{2}$  inch, and the transverse (*c d*, fig. ii.)  $1\frac{1}{8}$  inch. There is in the fenestra a concavity to the extent of the eighth of an inch. On reference to the drawing this will be seen; but the impression unavoidably conveyed of a thinning or bevelling off is incorrect, as on the external or dorsal surface there is a corresponding convexity, so that the thickness of the fenestra remains unaltered. This was necessary to obviate any risk of cutting, or otherwise injuring, the maternal or fetal structures, and thus having the advantage gained by the concavity more than counterbalanced by the danger alluded to. The rim encircling the fenestra is of uniform thickness, and the width three-eighths of an inch (*g h*, fig. ii.) The width of the blade at *e f*, fig. ii., is exactly an inch, and perfectly plane from side to side. The breadth gradually decreases to the hinge, where it is four-eighths of an inch. The thickness of the blade in its entire length, including the brim of the fenestra, is three-sixteenths of an inch.

The mode of applying this vectis in a natural presentation is to introduce it with its convex side towards the hollow of the sacrum; and when arrested by the contact of the curve with the promontory of the sacrum, it is to be carried under the ramus of the ischium, to the right or left, as the case may require, pushing forward the instrument in the axis of the ear, and raising the handle, when the curve adapts itself to the chin, and, receiving it into its fenestra, becomes placed in a line from the ear to the vertex. The application of the finger to the ear is the best mode of detecting the position of the head, and, consequently, of showing the direction in which the handle is to be turned. In presentations of the face, the blade, by its curve, adapts itself admirably to the occiput.

In cases of breech presentation, by fixing the instrument in one groin, and applying the fingers to the other, and making steady traction during the expulsive efforts, I have always succeeded in extracting the child: and, in many cases, have been able to satisfy myself that, by not waiting for the unaided uterine contractions to expel the child, the risk of the funis being compressed has been avoided, and life preserved.

When, after the head has descended through the brim of the pelvis, it has become arrested at the outlet, in consequence of an unusual approximation of the two ischiatic rami, or projection of the spinous processes of the ossa ischii, I have never experienced the slightest difficulty in dislodging it, by means of the power acquired

by the instrument. In numberless cases of contracted pelvis, I have used the instrument with great ease, the curve being applied to the chin, when the head had rested in the contracted space of the superior aperture for twenty-four hours. In many cases, too, I have succeeded in delivering the woman, and in saving the life of the child, when, in previous labours, it had always been deemed necessary to use the perforator. In these cases, also, there have been no marks of injury done to the child. In this way overcoming those difficulties arising from deformity, in which the deficiency of space was from the sacrum to the pubis ; and where, in some cases, the contraction was so slight that it was readily surmounted by a little additional power afforded to that which the uterus, aided by the ergot of rye, was capable of exerting, is sufficient to surmount it.

In proof of the advantages afforded by the instrument, I subjoin cases, which, were it necessary, I could multiply greatly, having been engaged in active practice in a densely populated manufacturing district, for a period of nearly thirty years. Those, however, which I have appended will serve to show the applicability of the instrument in cases of every variety of presentation of the head and breech.

It will be seen that in case 1, I succeeded in delivering the woman, by the aid of my instrument, and that without difficulty, after it having been considered necessary to destroy the child in every previous labour. I may state that this was not done by any inexperienced practitioner, but by a gentleman who had had ample opportunities of becoming practically acquainted with cases in which instrumental interference is unavoidably necessary.

CASE 1. Mrs. S., aged 38, had been in labour of her sixth child for about twelve hours. On my arrival, I found the membranes ruptured, and the pains strong and following in quick succession. She explained to me, through the medium of her nurse, that she had always been delivered by the aid of instruments, and that all her children, with one exception, and that was much mutilated, had been born dead, having had the head opened by the perforator.

On examination, I found the occiput impinging on the symphysis pubis, with the face turned towards the sacral promontory, and the entire head firmly wedged in the superior aperture. The scalp was very much elongated from the long continued action to which it had been subjected, the membranes having been ruptured for some hours. The soft parts were hot and swollen.

As the ergot of rye would, of course, have been altogether inad-

missible, I determined to endeavour to save the life of the child by the aid of my instrument, in place of having recourse to the perforator. I introduced it in the manner which I have before described, fixed the curvature on the chin, and succeeded in a few minutes, by steady traction, in delivering the woman, the child being living and well. She declared that she had suffered less on this occasion than in any of her former labours.

CASE 2. Mrs. L., aged 40, whom I had been in the habit of attending, and who, in consequence of repeated rheumatic attacks, had become lame, and was deformed in the pelvis, had been by me always delivered, without much difficulty, by the aid of my instrument. She had, in the present case, engaged a gentleman living in the village where she resided. Labour came on, and at the expiration of twenty-four hours, no progress having been made, my attendance was requested in consultation. I found the head impacted in the brim, and situated as in Case I. The surgeon in attendance informed me, that he had, during the night, made every attempt to extract the head by the aid of the forceps and lever, and that he considered craniotomy necessary. I introduced my instrument, and requested him to extract the child. This he declined doing, and begged that I would make the attempt, and, if possible, save the child. The delivery was accomplished with great ease, and a living child was the result.

CASE 3. Mrs. T., aged 22, was attended in this, her second labour, by a gentleman who had been an apprentice with me. The head of the fœtus having been impacted for six hours in the brim, and all efforts to deliver by the common vectis having failed, I was sent for. On examination, I found the face turned towards the pubis, and the occiput towards the sacrum. I passed the instrument in the manner directed, and by fixing it upon the chin, I succeeded in a few minutes in extracting the child, which, although feeble, and much swollen and discoloured, ultimately recovered.

CASE 4. Mrs. C., aged 31, low in stature, and of a rickety appearance, with a small and badly-formed pelvis, had required, in all her former labours, assistance from the instrument. In her present labour, I being from home, my junior apprentice obeyed the summons, and being unable to succeed, he sent for his senior. He in turn made fruitless attempts to extract, but failing, and I having by this time returned, they called me to their aid. They informed me that the face was turned towards the pubis, and that the head was so firmly fixed in the brim of the pelvis, that they could not



introduce the instrument to obtain any hold which would enable them to overcome the difficulty. I, however, easily succeeded!

In such cases as the present it becomes necessary to vary in some respects the manner of applying the instrument, which should be done thus :—The woman lying on her left side, the vectis should be introduced, as in ordinary cases, as far as the promontory of the sacrum. Then it must be carried forward between the head and the left ischium to the pubis, when no difficulty will be experienced in adjusting and fixing it on the chin. This being done, we must give the instrument a lateral and upward motion, and thus convert the presentation into a natural one, when the difficulty is surmounted, as in the present instance.

CASE 5. Mrs. D., aged 19, it being her first child, had been in labour fourteen hours, with severe pains, and had made no progress. The gentleman in attendance, possessing my instrument, endeavoured, by its aid, to deliver the patient, but did not meet with the success which he had been accustomed to. He therefore sent for me, and informed me of his want of success, giving as a reason that the face was lying towards the left side of the pelvis. As he had not been informed of the modification of the process required in such cases, he had been unable to pass the curve, and fix it on the chin. I therefore directed him to pass the instrument as usual, until it arrived at the promontory of the sacrum, and then, in place of carrying it between the right ischium and the head, to reverse the mode, and to carry it over the face towards the pubis, and by pushing it up a little, he would succeed in fixing it on the chin. He did so, and very soon extracted a living child.

I have considered it best to give a few cases only, for the purpose of elucidating the application of the instrument in those cases of transposition and difficulty which have so often occurred to me.

It often becomes necessary, in consequence of differences in the positions of the head both before and after it has descended into the pelvis, that the operator should have the power of using his left hand equally with his right. But by placing the woman in all cases on her left side, much of this necessity may be alleviated, by introducing the instrument between the face and the left ischium, as described in the last case; having reference, however, to the face being turned to the right or left side.

CASE 6. Mrs. M., aged 28, had always had tedious labours, suffering very much during the passing of the head through the outer aperture of the pelvis, from a too great approximation of the two rami,

accompanied by severe cramps, and once followed by a severe attack of Phlegmaria Delens. She required my assistance on this occasion, it being her fifth child. The membranes had been ruptured for several hours, attended by harassing pains; but as she thought them not so violent as usual, she did not send so early as she would have done, had they been of their usual character. On examination I found the breech presenting; and after waiting for several hours, and administering the ergot of rye (which I give in some cases of breech presentation, when the os uteri is sufficiently dilated) without effect, I introduced the instrument as usual, and took the under sweep, fixing the curve in the groin. Then with the aid of the fingers of the left hand, I succeeded in delivering the woman very soon, without any injury to the groin, except a little discolouration, which soon passed off.

In conclusion, I have to express my strong conviction, that were this instrument generally substituted for the one commonly in use, as well as for the forceps, many cases, which now present formidable difficulties, or which are tedious both to the accoucheur and the patient, would be terminated with ease and safety; with the additional advantage of frequently saving the life of the child. In this opinion I am joined by gentlemen to whom I have shown the instrument, and many of whom have been for a long time in the habit of using it, to the exclusion of the forceps and common vectis.

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TO THE EDITOR OF THE BRITISH RECORD OF OBSTETRIC MEDICINE  
AND SURGERY.

My dear Sir,

In your *Record* for the 1st current, I observe a lecture on Ether and Chloroform by Dr. Tyler. On perusing the said lecture, I was sorry to find that the learned author was one of those zealous partizans who cannot content themselves with advocating a cause on its own independent and intrinsic merits, but must needs resort to coarse and illiberal attacks upon those who adopt any rival method. Actuated by this principle, Dr. Tyler seems to have thought that he could not do sufficient justice to his favourite anaesthetics, without having a fling at mesmerists and mesmerism; and, in his ardent zeal, has not scrupled to advance most erroneous statements and illiberal sentiments. For the cause of truth and of suffering humanity, therefore, may I crave a little space in your pages for the purpose of correcting the erroneous impressions which

Dr. Tyler's observations are calculated to make, on the minds of those who are personally ignorant of the real powers and value of what is commonly called mesmerism? Dr. T.'s observations having been addressed to his pupils, renders them the more reprehensible.

In limine, I beg leave to observe, that, strictly speaking, I am not a mesmerist, inasmuch as I differ from the mesmerists in my mode of *explaining* the phenomena, as also in respect to the *extent* of the *genuine* phenomena. I do not pretend to produce clairvoyance by my processes, nor any other phenomena which do not admit of explanation, on generally admitted physiological and psychological principles. But that certain remarkable physiological effects can be produced on man and brutes by certain processes resorted to by the mesmerists and myself, and that by this means many diseases may be cured, without medicine, which are most obstinate or altogether incurable by ordinary medical means, I am as certain of, from personal experience, as I am of my own existence. Moreover, as to the reality of the *ordinary* and *useful* phenomena of mesmerism, instead of being refuted, they are actually confirmed by the phenomena realised during the use of ether and chloroform. Phenomena formerly declared impossible are now common every-day occurrences. Had Dr. Tyler contented himself with declaring his belief that ether and chloroform were decidedly superior to mesmerism for inducing the state of anæsthesia requisite for surgical and obstetric purposes, from their being more speedily and generally successful in producing the requisite intensity of effects, it would have been a statement which no one could reasonably have found fault with. In fact, it would have been in exact accordance with my published opinion on the subject, as it appeared in the *Medical Times* for the 27th February, 1847, in my paper entitled, "On the relative value of Mesmeric and Hypnotic Coma, and Ethereal Narcotism, for the mitigation or entire prevention of pain, incident to surgical operations." I had tried *both* methods, and had found hypnotism quite sufficient to suspend pain entirely during some *minor* operations in *my own* practice, and I had no doubt, from the published reports which I had read, that it had been used successfully by others in many *capital* operations. Still I was well aware that comparatively few subjects, in this country, could be reduced to the requisite intensity for such purposes, and even in those where it succeeded, that it would take up so much time as must prove a barrier to its general adoption for such purposes, espe-

cially now that ether and chloroform are ascertained to be so speedy and certain in their effects, and capable of narcotizing every human being to whom a sufficient dose is given.

Still, whilst I readily yield the palm to ether and chloroform for *surgical and obstetric purposes*, I feel quite confident that they will never prove so extensively useful as mesmerism and hypnotism for the cure of a large class of diseases in which this mode of treatment has been proved to have been eminently successful; and that in diseases, too, which are most obstinate, or altogether incurable by ordinary medical means. It is with the view, therefore, of preventing suffering humanity from being deprived of this important boon, and valuable adjunct to ordinary medical means in suitable cases, by parties being misled by Dr. Tyler's erroneous statements, that I have entered on this discussion.

Dr. Tyler says, "shortly before the application of ether was mooted as an assuager of pain, a last desperate and dying effort of the mesmerists was made to bring mesmerism into fashion. Books were published on its powers, and innumerable cases detailed where it was *said* painful operations had been performed during the mesmeric sleep, without suffering on the part of the patient. We know that men of undoubted talents advocated the practice of mesmerism, and not only lent their energies, but, in some instances, sacrificed their private interests, for the sake of propagating what the majority of the profession looked upon as a delusion, or, as some might express it, '*arrant humbug*.'"

In the first place, Dr. Tyler here wishes to set forth that the practice of mesmerism was all but extinct "shortly before the application of ether," that is, about two years ago. Now either Dr. Tyler must be profoundly ignorant on the subject, or else he must intentionally have published what he knew was not true, in order to disparage mesmerism; for the fact is notorious to all who know anything of the subject, that the mesmeric and hypnotic practice had never been so widely diffused, and so successfully used for the relief and cure of disease, as well as for annulling the pain of surgical operations, as at the very time when Dr. Tyler alleges the mesmerists were making "a last desperate but dying effort" to bring it "*into fashion*." Not only was this the case in Great Britain, and a great part of Europe and America, but in our possessions in the far East, at Calcutta, it was being practised by Dr. Esdaile with a degree of success which had never been realised at any period, or in any other part of the habitable globe.

But again, Dr. Tyler admits the reality of pain having been annulled by ether and chloroform. He gives full credit to the details of others on the point, but when he refers to the published statements of the "innumerable cases" of similar effects having been realised through mesmerism, he makes use of the phrase, "*it was said*," no doubt wishing it to be inferred that such statements about the success of mesmerism are *untrue*. Permit me to ask Dr. Tyler whether the "men of undoubted talents who advocated the practice of mesmerism," were not, many of them at least, as veracious and worthy of credit as Dr. Tyler himself? and if some of them sacrificed their private interests for the sake of propagating mesmerism, *after they had investigated the truth and worth of it*, was this not a more satisfactory proof in its favour than the pooh poohs, and sneers, and shrugging of the shoulders, and expressions of "*arrant humbug*," and other opprobrious terms applied to it by unenquiring dogmatic sceptics?

Dr. Tyler farther states, "certain it is that three months after the advent of sulphuric ether in these countries, mesmerism was no more; its former worshippers submitted to their untimely fate. Never was a victory more triumphant, or a defeat more complete, than the rise of anæsthesia and the fall of mesmerism."

By these remarks Dr. Tyler wishes to make it be believed that mesmerism is no more; that it has been fairly and irrecoverably asphyxiated by ether and chloroform; that it has been dead,—irrecoverably dead and buried for the last two years, and, consequently, that he and its other opponents may now gloat over the untimely and sudden death, and final extermination, of the hated thing. I beg leave, however, to ask whether the erroneous statements set forth in the above extracts from Dr. Tyler's lecture were put forth by him in ignorance of the true state of the case, or with the intention of wilfully misrepresenting it?

Whatever were his *motives and intentions*, there can be no doubt but he has grossly misrepresented the true state of the case, for not only are mesmerism and hypnotism extensively practised, *at the present time, in the British dominions*—for proof of which I beg to refer to Sandby's "*Mesmerism and its Opponents*," lately published, and to the *Zoist*, published quarterly—but so successfully has it been prosecuted in India by Dr. Esdaile, that one of the first public duties which devolved on Lord Dalhousie on his arrival at Calcutta, last spring, as Governor-General of India, was to investigate the claims and pretensions of mesmerism, and the high favour in

which it was held by the most influential natives there, who presented a memorial to the new Governor-General, setting forth the *great good realised by the Mesmeric Hospital*, which had been appointed at Calcutta by his predecessor, for one year, and which they craved *as a boon*, might be *permanently* re-established, to be supported by their own public subscriptions. On inquiry, Lord Dalhousie (one of the most clear-headed and intellectual men of the age) was so well satisfied with the public benefits which had resulted from the mesmeric practice at the Hospital, that he not only complied with the prayer of the petition, to re-establish the Mesmeric Hospital, but, moreover, appointed Dr. Esdaile to have the superintendence of it, and, as a reward for his past energy in prosecuting *this* inquiry, and as an encouragement for his future exertions, he appointed him to the honourable and lucrative situation of being one of the Presidency Surgeons,—a certain guarantee to fame and fortune. These are significant and *publicly recorded facts*, which neither the sophistry nor bold assertions of Dr. Tyler and his aiders and abettors can gainsay. Do these facts look as if mesmerism was all "*arrant humbug*?" or that the rise of ether and chloroform was the fall of mesmerism? or that three months after the discovery of ether "mesmerism was no more?"

I by no means wish to hold up mesmerism or hypnotism as a panacea or universal remedy, for I believe in *no* UNIVERSAL remedy in the treatment of disease, but I am equally confident in their great value, in certain forms of diseased action, when properly and skilfully used, and, consequently, I have recourse to *this* method in *suitable cases*, in the same manner as I prescribe medicines, and other ordinary medical appliances, where they are particularly indicated; and with these facts before him I trust Dr. Tyler is a more humane man than to wish to persist in raising a prejudice against an important mode of treating diseases which we cannot treat with anything like the same success by ordinary medical means.

I remain, my Dear Sir,

Yours, very faithfully,

JAMES BRAID.

3, St. Peter's Square, Manchester.

## THE NEW MIDWIFERY INSTRUMENT.

Happy and honoured be the man whose endeavours are put forward to reduce the number of barbarous obstetric instruments now in use—we have far too many, and they are too often applied. Young practitioners are ever on the alert for novel cases, and talk of the use of forceps, lever, and perforator, as commonly as they do of tooth-picks. Instrumental midwifery is a more rare necessity than is generally allowed. Look at the results of Dr. Jarvis's practice, vide *Lancet*, Jan. 13, 1849; in 1,484 cases, only 3 forceps, 2 vectis, and 9 turning cases; and only one death in 1,484! look at this ye difficult case seekers! The same practice extended to 2,294 cases, presented only 2 deaths. We know another practitioner, who, in the course of his experience, has had upwards of 6,000 cases, and yet never used the forceps 20 times in his life. We ourselves have had an experience of from 5 to 6,000 cases, and certainly have not used the forceps 40 times, half of which number occurred in the practice of others to whom we were called to render assistance. In fact, we believe, as has been often expressed, that nine times out of ten, the necessity might be avoided by prudence and patience.

It is a significant fact, that no sooner does any remarkably extraordinary case appear in the Journals of this country, than numbers of *such cases* are immediately poured in from all quarters, until we are led to suppose that *natural labour must itself be a rarity*.

A new instrument is now proposed to supersede the forceps, and vectis, by Prof. Simpson; if it prove less destructive we hail it with a cordial welcome; the instrument, however, is not new to us, having conversed with Dr. Simpson a year ago on the subject. At that time we fancied some serious objections to its use, we are still of the same opinion. The leather sucker used by boys to lift stones sufficiently explains its action, which must be borne in mind is entirely on the loose scalp of the child, to which, we think there is a very serious objection. If much hair be on the head we see a difficulty in exhausting the air from the interior surface of the *sucker*. The hold, when applied, seems to us seriously to interfere with the head adapting itself to the diameters of the pelvis; and certainly the hold on a loose scalp will not enable the obstetrician to do much in directing the head in its proper route. All the advantage we can see in its adoption is the traction, but whether that can be applied with propriety we very much doubt. In conclusion, we think it more ingenious than practically useful.—Ed.

A COURSE OF LECTURES ON PRACTICAL OBSTETRICY.—BY ALEXANDER TYLER, M. D., LECTURER ON MIDWIFERY, ETC., DUBLIN.

(Continued from page 33.)

"Gentle reasoning is very powerful in restraining anxiety; attention to the natural functions of the body is very important. Irritation is frequently set up by costiveness, which should therefore be obviated by such aperients or other appliances as are suited to the exigencies of the case, and not be quieted by the overpowering influence of chloroform. The secretion of the kidneys must be attended to, for distention of the bladder may prove a mechanical impediment to the birth, and is to be guarded against, or removed by proper means if it has occurred. Change of position, and cooling medicine to obviate feverishness," (or still better, the timely use of the lancet) "are of great service occasionally in tedious labours; but if the nervous excitement or exhaustion from want of rest continue unabated after the employment of these means, recourse may be had to chloroform." He further observes, "the more the powers of nature are studied in the act of childbirth, the less necessity will be found for the use of medical applications to relieve the suffering; so that I firmly believe that the administration of chloroform will be confined eventually to instrumental or very tedious labours."

In conclusion, I am much inclined to agree with Dr. Merriman in his guarded and judicious observations upon the administration of chloroform, and would rather see the use of this powerful drug restricted within the limits he has assigned it than encourage the abuse of an agent pregnant with good or evil, according to circumstances over which I fear, in all instances, we cannot be said to possess the faculty of discriminating. It would be adding little to the statistics of anæsthesia, were I to give you in full my own private experience of anæsthetics, therefore, perhaps, we are not entitled to pass an opinion as I have just done upon the applicability of chloroform in midwifery practice, unless you may grant me the right to judge fairly, and to form an impartial estimate, of its real worth, after sifting, as I have endeavoured to do in this lecture, the evidence upon both sides of the question. Chloroform at



present possesses a great advantage, in the eyes of the public, over all remedial agents, viz. Novelty. Whether it will be able to hold the elevated position which has been assigned it by Dr. Simpson, or that it will fall into disuse (the fate of mesmerism and ether) remains to be decided by the test of time, usually the most unerring and impartial tribunal for the decision of such disputed points.

Dr. Ireland will commence the course upon Tuesday, and after he has completed the description of the female pelvis, together with its important contents, the organs of generation, I shall again have the pleasure of meeting you, and of commencing the practical part of the course.

As I shall be unable this winter to lecture in the evenings to the pupils attending the practice of the Anglesey Hospital, it will afford me gratification to see them here, when I will take every opportunity (compatible with the interests of the regular course) to make practical observations upon all cases of interest which may occur in the hospital or amongst the out-patients.

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## LECTURE I.

GENTLEMEN,

My colleague, Dr. Ireland, having this year kindly offered to deliver that portion of the course which we style the Theory of Midwifery, it devolves upon me to give you the practical part. As the management of labours constitutes the most ordinary and trying duties of the midwifery practitioner, I shall at once enter on their consideration, presuming your previous knowledge of the form and construction of the female pelvis, together with the situation, structure, and physiological uses of the organs of generation. In order to simplify and to render more intelligible our remarks, descriptive of the different kinds of labour, it will be necessary to adopt some arrangement or classification. The classifications of labours are exceedingly numerous, as given by different authors, each recommending his own as the best. Now, as we do not pretend to offer you a more perfect classification than those at present in being, it only remains for us to choose that which for all practical purposes is the best. Without disparaging those of more recent date, I am inclined to give the preference to Denman's

classification, which, without being too general, is sufficiently comprehensive in its details, so that we can at once assign its particular class to any variety of labour met with.

Denman divided labours into four classes, viz. Natural, Difficult, Preternatural, and Complex. Dr. Burns thought this arrangement incomplete without the addition of a fifth—Premature Labour. Now I will not dispute the advantage of classing under a particular name those labours supervening before the expiration of the natural term of utero-gestation, yet compatible with the existence of the offspring; but I at the same time think we can do very well without it—in other words, that premature labours may be described and treated of under the other four heads, according to the class to which they may belong, reserving, if you will, the term “premature” in order to specify the abrupt termination of the process of utero-gestation. I may here observe, that the artificial induction of premature labour will come under our consideration when describing the treatment most applicable in certain cases of contracted pelvis, such as will admit of the passage of a fetus before term with safety to the structures of the mother and life of the child, but must inevitably result in disastrous consequences to one or both if the case is allowed to proceed uninterruptedly up to the full time.

Natural labour may be defined to be the accomplishment of the act of childbirth, through the unaided efforts of the mother; however, to make the definition more specific, Denman requires,—1st, that the head of the child present; 2nd, that delivery be accomplished within twenty-four hours; and lastly, the non-interference of art. This definition comprises the essential characters of routine labours, therefore may be adopted as our standard for this class, although liable to some objections, not the least obvious of which is, as regards time. For we constantly attend labours which, from their severity, although perhaps terminated within twenty-four hours, ought to be placed in Denman's second class of difficult labours; the exact boundary between natural and difficult labour is sometimes not easily defined. We may meet a labour protracted beyond twenty-four hours, yet the mother be finally delivered without artificial assistance; but there are other distinctive characters of difficult labour which cannot be mistaken, as for instance, the necessity of having recourse to the use of instruments, &c.

Denman's third class, in which he includes all labours when any other part of the child presents except the head, cannot be mis-

prematurely premature, merely having reference to the presentation not being the usual or natural one.

Under the fourth head we have a great variety of labours included—for instance, Plural Births, Monstrosities, Prolapse of the Umbilical Cord, Convulsions, Rupture of the Uterus, Inversion of the Uteri, Hemorrhages, and many other complications less frequently met with, which will be described to you when we are treating of this varied and interesting class of labours, and I shall then prove to you the vital importance of the accoucheur being thoroughly conversant with the diagnosis and treatment of the dangerous complications that he is liable to meet with at the very outset of his obstetric career; else in place of being a blessing to society, as every well-educated and judicious practitioner ought to be considered, he will be the harbinger of death and dismay wherever he can procure victims who have the temerity to confide their own safety and that of their offspring into the hands of inexperienced and too often ignorant—arrogant—pretenders. In the description of no other class of labours shall I have the opportunity of impressing upon you the urgent necessity of a midwifery practitioner possessing at his fingers' ends (if I may so express it) the most intimate acquaintance with all the details of his particular branch, and be prepared when need demands, to put in practice promptly and skillfully those precepts which experience and a sound judgment have convinced him are only to be depended upon. A mariner risks his vessel by steering her through shoals, and surrounded by rocks, unless he be provided with an accurate chart, pointing out the dangers to be avoided, and possesses within himself the information and action required for the emergency; but in no instance does he run greater risks of losing his ship and property than the inexperienced, half-educated practitioner incurs, of having his reputation and professional character (whatever it may be) blasted for life, by the fatal termination of one of these formidable complications. It would be out of place for me at present to say more upon this important subject; I hope I have said enough to awaken your interest and command your attention, when we now proceed to describe the more safe, but not less important, process of natural labour; for out of mismanaged natural labour may be laid the foundation of those frightful complications just now alluded to. Your own good sense will teach you, after a time, that without a thorough knowledge of the natural process, and its management, together with the numerous (apparently) trifling manipulations had

recourse to by the watchful attendant, you will be far from qualified to cope with the difficulties sure to be encountered in the prosecution of this most arduous branch of the medical profession.

In order to render more complete and intelligible the description of natural labour, this process has been divided into stages. Like the varieties of classifications formerly alluded to, as handed down to us, authors have again indulged their inventive faculties with a tendency to mystify, in place of adding new light to the beautiful phenomena of nature, by dividing and subdividing the steps of nature's course. The division I shall adopt, and which I offer to you as both simple and practical, is that given by Denman. Natural labour, according to him, is divided into three stages. The first, comprising all the changes consequent upon the supervention of uterine contractions, until the full dilatation of the os uteri and rupture of the membranes. Denman's second stage commences with full dilatation of the os uteri, and ends in the expulsion of the fœtus, and the third stage refers to the management of the placenta, and ends with the expulsion of it from the uterine cavity.

The process of parturition, when safely and naturally gone through, is thus observed to commence with uterine contraction, to progress under its influence, and finally to be completed by a still more permanent state of contraction.

As to the causes of labour, or in other words, of the first uterine contractions, great diversity of opinion still exists. Some have supposed them produced by mechanical distension, that is to say, the uterine fibres will bear a certain degree of distension, but when it is exceeded, resist further expansion, and in place of giving way to increased development within, their united action is called into play, in order to expel their contents, and thus get rid of the necessity of enlarging beyond a certain point. This opinion is rendered improbable from the fact of the uterus submitting to various amounts of distention in different pregnancies, yet still carrying its contents up to a certain period in all, before Nature thinks fit to expel them: a familiar example of this is afforded by plural gestation. The unusual distension of the uterus in these cases, not necessarily interfering with the usual duration of utero-gestation; and again, the cavity of the gravid uterus at the full time is said to be not distended to its utmost capacity.

Others attempt to account for the supervention of labour at a given time on the score of sympathy, and compare the uterus to other hollow, muscular organs, possessed of sphincters, which, upon

being irritated by the contact of their contents, re-act sympathetically upon the expulsive fibres, &c. &c. Many other opinions equally untenable might be mentioned, but as I hope to occupy your attention with more profitable matter, I shall content myself by merely quoting that of a distinguished French author, (which perhaps is nearest the truth) and referring you for the numerous theories started upon this disputed point to our old obstetric authors. Desormeaux, whose opinion I am inclined to approve of, says, "The fundus and the body of the uterus are the first portions which expand, to form the cavity destined to contain the ovum. The fibres of the cervix only contribute to the enlargement of the uterine cavity at a later period, and the resistance offered by its orifice to the escape of the ovum goes on diminishing, according as gestation draws to a close, until, at last, the full time having arrived, the cervical fibres having been so weakened as to be incapable of resistance, the antagonistic fibres of the fundus now act, and being only feebly opposed, overcome any remaining effort, by finally effecting the expulsion of the fœtus and secundines." This theory clearly explains the giving way of the fibres surrounding the uterine orifice, but it leaves us in the dark as to what first calls into action the antagonistic fibres. We thus find we are as far as ever from explaining the primary cause of labour, and feel compelled to own our ignorance as to the true cause, by confessing that nature, in this instance, as in many others, has assigned a limit to the duration of utero-gestation, which term being accomplished, she takes measures to insure obedience to her mysterious laws, by exciting expulsive efforts. The duties of the obstetric practitioner when called on or engaged to take charge of a pregnant female, and to bring her safely through the dangers of childbirth, are threefold:—first, the preparatory treatment in many cases requisite during the latter weeks; secondly, his duties at the bedside, when labour has actually commenced, until its termination; and thirdly, the management of the puerperal state. The former consists principally in the enforcement of such hygienic rules, as are best calculated to ensure the due performance of the various functions which are usually more or less interfered with towards the close of gestation; but when from mechanical pressure, sympathy, or other causes, this end cannot be attained by a strict observance of moral and hygienic restrictions, then it is incumbent upon us to adopt and put into execution that line of treatment required by each individual exigency. In general, the functions of the chylopoietic viscera are those most

interfered with, and therefore demand our earliest and closest attention ; if we neglect to do so, we subject our patient to the risk of a difficult or complicated labour, and are sure to entail upon our own shoulders a world of trouble, anxiety, and inconveniencies, all of which might have been prevented had we done our duty in the first instance, by watching our patient, noting her state, and administering such remedies, as were best calculated to improve the performance of any functions then in an unhealthy state. Constipation being one of the most constant and troublesome affections during pregnancy, requires to be prevented, or removed when existing, by appropriate means : the former object will frequently be attained by restricting the diet of our patient to those articles of food only which are easy of digestion, and urging her on every available occasion to be out in the open air, and to partake of that kind of exercise most agreeable to her former habits, and consistent with her pregnant condition.

These directions may be styled commonplace, and despised as such by some of you ; but I can inform those who have not yet had experience in these matters, that often will they have to deplore, in their future practice, the non-enforcement of these simple, but essential practical directions. Were all females as attentive to their general health as they should be, then the necessity of your interference in these ordinary matters would be uncalled-for ; but it is a notorious fact that most females are exceedingly forgetful of putting into practice those measures conducive to the maintenance of health.

When engaged to attend a primipara, I inquire most particularly as to the state of the general health, and after enjoining my patient to observe strictly the rules above laid down, I generally recommend in all cases, some mild aperient medicine to be taken once or twice a week during the latter weeks. In some lying-in hospitals it is the invariable practice to administer to the woman, on admission, a purgative draught ; this practice ought never to be required in private, as the necessity for it can always be avoided by previous management and attention. The purgative I most approve of in the last stage of pregnancy is castor oil : this medicine in the early months, when much irritability of stomach exists, can seldom be administered, but, towards the end of pregnancy, is in my opinion, the very best which you can give. When called in unexpectedly to take charge of a patient you have not previously had an opportunity of examining or of ascertaining to a certainty that she be

pregnant at all, let this be your first care, and do not expose yourself to the risk of being ridiculed for waiting on a supposed case of labour, where the uterus contained no *foetus*. This is not an imaginary case; an esteemed friend of mine, an eminent accoucheur, was once summoned by a practitioner to see a lady he had been in attendance upon for two days and nights, and, as this gentleman described, in strong labour for a greater part of the time, yet on my friend making a careful examination, he at once discovered the lady was not in labour at all, therefore recommended both patient and doctor to take a night's rest, and as he also obtained strong evidence of the non-existence of pregnancy, he prescribed for the lady a change of air, and the doctor to alter his tactics, or, in plainer terms, to learn his business. Mistakes like this not only create ridicule, but bring into disrepute the practice of obstetricy: fortunately, they are rare, and I believe I am borne out by the educated portion of the profession and by society at large, in saying that any man capable of falling into such an egregious error should be deprived of the privilege of practising this branch, no matter what diplomas, authorising him to do so, he might possess. The signs of pregnancy have been already fully described to you by my colleague, Dr. Ireland, therefore it now remains for me to describe to you those by which you are informed that labour has really commenced—your second most important duty at the bedside. Here again you are not to depend upon the feelings of your patient, or the statements of the nurse, but form your own conclusions, without reference to anything you hear, before giving an opinion. The ground upon which that opinion ought to be formed will next occupy our attention. A practised ear will often be able to form a correct opinion in his own mind as to the existence or not of labour, from the tone and nature of the patient's expressions, but I would recommend you never to trust to such a superficial and uncertain criterion, as the mere accents of pain, which in some cases are absent, in others may be suppressed, and in any instance might be counterfeited by an apt mimic, in order to deceive. The application of the hand over the uterus will, in many instances, inform you as to whether that organ is quiescent, or in active contraction, the latter state, when distinctly felt, is satisfactory proof of labour having commenced. The most satisfactory and only certain evidence, however, of that fact is to be acquired by a vaginal examination. This should seemingly be had recourse to reluctantly on your part, and let it always be practised with a degree of

delicacy and decorum, besting the occasion, no matter to what rank of life the individual may belong. It is often painful to see the want of respect shown by some accoucheurs to the feelings of females in childbed, who never consider what unpleasant consequences may accrue from the slightest aggravation of the nervous excitement then existing.

(To be continued.)

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A SERIES OF PAPERS ON CHLOROSIS.—BY RAY CHARLES GOLDING, M.D., London.

(Continued from Page 39.)

7. The cerebral symptoms attending chlorosis are due either to the state of the blood impairing the functions of the brain, to sympathy with the deranged digestive organs always more or less present, or may be a part only of the hysterical phenomena: for their relief neither depletion nor counter-irritation need be adopted: the ordinary treatment for the chlorotic state—iron, aloes, and antispasmodics, usually sufficing for their alleviation.

The most urgent of these symptoms are: sensation of throbbing across the forehead, with great tendency to syncope; sometimes extreme sensibility of vision, sometimes partial amaurosis; the senses of hearing, touch, and taste are similarly defective, at times augmented, sometimes lessened, and not unfrequently taste is so much depraved that the most indigestible articles are longed for and taken with avidity. These phenomena, though in a modified form, are occasionally present in males.

8. The constant presence of dyspeptic symptoms, and the necessity for their alleviation, render them important adjuncts to the phenomena of chlorosis. Depraved appetite, defective secretion of bile, distressing tympanitis and eructations, and tænia in the small intestines, are frequently met with. I have known most severe symptoms referable to the stomach, such as acute epigastric pain, constant and most distressing vomiting, and such irritability of the stomach that no ingesta, however trivial, could remain therein; such symptoms suddenly supervene, and as suddenly disappear, after defying all methods of alleviation; they are hysterical, and need not be apprehended. Hæmatemesis during chlorosis, I think, is always indicative of uterine derangement; it certainly has appeared often



as the first indication of that derangement, and is seldom of sufficient profuseness to require styptics. The more advanced the chlorosis is, the more distressing do the phenomena indicative of deranged assimilation become; thus other diseases of mal-assimilation may be superinduced, the most usual of which are: phthisis pulmonalis, enlargement of the liver and other glands, chronic acne, lepra, psoriasis, chronic exzema, boils, carbuncles, and the like.

CHAPTER III.—*Diagnosis and Prognosis.*—A. The chief points in the diagnosis of chlorosis are: the pale, tawny, or greenish yellow tinge of the skin, paleness of the mucous membrane of the lips, mouth, palate and conjunctiva; the mother-of-pearl appearance of the eyeball, with a glistening stare of the eyes themselves, which is very peculiar; irregular pulsation of the heart, with preternatural clearness of its sounds, oftentimes attended with a systolic murmur over the cardiac region; *this* and a *continuous murmur* are heard along the neck, when this part is made tense for the purposes of examination; as also a *purring tremor*. Next in importance are the uterine derangements, the cerebral, dyspeptic, and hysterical symptoms; next, the œdema, which attacks first of all the cellular tissue around the ankles and of the eyelids; if any doubt exists, the urine and the blood must be subjected to examination; the former is usually clear, of natural tint, and profuse, the latter must be examined according to the details afforded by Andral and Gavarret.

B. The prognosis of chlorosis is only unfavourable when the disease is long protracted, or the ordinary remedies for it have failed in improving the blood, also when any apprehension exists of the supervention of other maladies, as phthisis, confirmed dyspepsia, epilepsy, aggravated paroxysms of hysteria, chorea, frequent attacks of syncope, organic lesions of the liver or kidneys. If, however, these diseases are severally absent, and the chlorotic state alone exists, every reasonable expectation may be entertained of ulterior benefit accruing from the dietetic and medicinal measures adopted.

The gradual changes in the system with advancing adolescence, with the prolonged exhibition of easily digestible food, the employment of healthy exercise, and the preparations of iron, are seldom found to fail in ultimately removing the chlorotic state when unattended by organic lesions, although their combined efficacy may be most gradual.

When the diseases mentioned above supervene, or *are themselves* the cause of the chlorotic state, (as in most forms of *symptomatic chlorosis*), the prognosis is most unfavourable.

CHAPTER IV.—*Treatment*.—The essential points in the treatment of chlorosis are comprised under the following heads :—

- α. To improve the condition of the blood.
- β. To improve the secretions generally.
- γ. To restore the deranged uterine functions.
- δ. To alleviate co-existing organic lesions, as far as alleviation is possible.
- ε. To alleviate the hysterical, dyspeptic, and cerebral symptoms, such frequent adjuncts to the chlorotic state.
- ζ. To quiet the inordinate action of the heart, and to relieve pulmonary congestion, if existing as a concomitant.
- η. To dissipate the dropsy, and to prevent its recurrence.
- α. This is done by the strictly tonic plan; of remedies, none are so generally efficacious as the preparations of iron, whether administered in the ordinary pharmaceutical forms, as chalybeate waters, or as the fancy of special prescribers directs. The best of all perhaps, and that most likely not to disagree, when its administration is prolonged (in many cases imperatively necessary), is the muriated tincture, with infusion of quassia; this formula may be alternated with quinine and dilute sulphuric acid.
- β. Improvement of the secretions is as well necessary for the chlorotic state itself, as to render efficacious the tonic plan just mentioned, since, if there be much derangement of the secretions, especially of the *primæ viæ*, calybeates, and quinine are either of no use or may be positively injurious. For this purpose, alterative doses of mercury, small doses of Iodide of potassium, rhubarb, and of aloetic preparations, are decidedly the best. During the administration of iron, a purgative every third or fourth day is necessary. If *tænia* exist, turpentine, the pomegranate root-bark, or the male fern root may be employed for their expulsion.
- γ. To restore the uterine functions to their healthy standard, little of a special kind can be effected. With the return to health, and as the blood improves, the uterus becomes less deranged, and the secretions generally become improved. Aloe is thought to possess a specific action on the lower bowels, and by *sympathy of contiguity*, an action

on the uterus also; however this may be, it may be safely exhibited, and is perhaps the best purgative to be given during the administration of calybeates; as it evacuates the lower bowels without producing watery stools, with the corresponding debility, local and general, consequent thereon; it progresses also a tonic action on the muscular tunic of the lower bowels. Rhubarb, as a carminative and cholagogue, is highly useful in chlorosis. Other remedies directed to the uterus may be used: the hip bath, friction to the loins, groins, and inner part of the thighs; electricity is often peculiarly useful, and horse exercise; all of which, by inducing congestion of the pelvic viscera, and increasing the force of the general circulation through the generative organs, will often re-induce the menstrual secretion. Of course nothing of a special nature will be of avail, without the concurrent plan of treatment mentioned under the two first heads.

δ. It was proposed in the earlier portion of this dissertation to include under the term chlorosis, all those morbid conditions of the system, dependent in a great measure on a defect in the red globules of the blood, both as to quantity and due development. It was mentioned also, how often the chlorotic state was a sequela of degenerated states of the kidneys, with albuminous urine, and how sometimes even such states of the kidneys might be induced by a pre-existing impoverishment of the blood.\* It must be evident, therefore, how much care such states of the kidneys demand, when existing as a complication of chlorosis; active diaphoresis, free purging, and the eschewing of diuretics, in this manner keeping the renal structure uncongested, are all the measures which experience has proved as of any avail. Other complications need not be detailed; their presence must be detected if possible, and their effects combated as occasion requires.

ε. For the hysterical symptoms of chlorosis, antispasmodics and sedatives may be employed, although their efficacy here is not so well marked as in hysteria from other causes.

\* Dr. Johnson and Mr. Simon have proved that deprivation of light, proper food, &c., will induce fatty degeneration of the kidneys and albuminous urine. Of all the forms of renal degeneration, that consequent on fatty degeneration is the most usual one which is attended during life with the so-called inflammatory dropsy, and a permanently albuminous condition of the urine.

*Æther*, *valerian*, *assafoetida*, *opium*, and *hydrocyanic acid* are those most in use. For the local neurotic affections so common under such circumstances, it is better to do nothing; if anything relieves, I believe the tartar emetic ointment to be the best counter-irritant, as its effects are not so transient as most other forms of counter-irritation. Although both general and topical blood-letting are often resorted to with temporary relief, little ulterior good can result, and much harm *may* be done by its employment. However distressing these symptoms may be, they need not alarm either the patient or the friends, since their super-vention, decline, or recurrence, and their intensity at all times, are as multifarious as all such neurotic affections are under other circumstances. The vapour of chloroform may be used to ward off the hysterical fit, if of such exigence as to cause alarm.

4. When the heart's action is inordinate, and symptoms of angina exist, a belladonna plaster to the cardiac region is of use. When the bellows' murmur exists, its gradual diminution is a good index of the progressive improvement of the blood. To keep the lungs uncongested (as congestion is a frequent cause of tubercular deposition, a predisposition existing thereto), warmth to the surface, with as perfect freedom as circumstances will allow, from increased action of the heart, must be enjoined.
5. To ward off, or dissipate, when present, the dropsy of chlorosis, flannel next the skin, a light bandage to the œdematous parts, an elevated posture of the affected parts when at rest, and slight friction, are useful as auxiliaries; it is only eradicated and prevented from returning, after having once existed, with the improvement of the blood, on whose impoverishment it mainly depends. It must be borne in mind that the imperfect nutrition of the skin over dropsical parts, renders inflammation easily excited on comparatively slight irritation.

CATECHISM OF OBSTETRICS, FOR MEDICAL STUDENTS AND JUNIOR PRACTITIONERS.—By J. E. PATTISON, Esq., LONDON.

(Continued from page 48.)

Q. 44. Having considered the voluntary and emotional forms of motor action, describe the reflex actions of the womb.

A. The reflex actions of the womb are very numerous, and it is upon these, and the numerous extra-uterine reflex actions excited during the process, that the natural performance of parturition essentially depends. Contraction of the womb from irritation of the breasts, as in the act of suckling the child; contraction of this organ from cold water applied to the vulva or the abdominal surface; contraction excited by irritation of the rectum, as by stimulating enemata, or of the stomach, by drinking a gulp of cold water; of the dearia; by the presence of the menstrual nixus; of the vagina, by manual irritation, as in "taking a pain;" of the os uteri, by irritation; as in the introduction of the hand into the uterus—are all to be considered as so many instances of reflex spinal action.

Q. 45. Through what series of nerves may the womb be excited in a reflex form?

A. By irritation of the mammary incident excitor nerves, the pubic and abdominal branches of the intercostals; the rectal, the gastric division of the pneumogastric; the ovarian nerves; and also by the nerves of the vagina, and the os and cervix uteri.

Q. 46. Explain how different forms of abortion, dependent on extra-uterine causes, illustrate the reflex action of the womb?

A. Abortion may be caused by irritation of the mammae, from the sucking of an infant, after milk has ceased to be secreted, as in cases in which the mother becomes pregnant during lactation; abortion may be excited as a morbid reflex act, from irritation of the bladder by a calculus; by irritation of the tri-facial nerve, as in cutting the dens sapientiae; by the irritation of the rectum from irritating purgatives; and by numerous other sources of irritation to incident spinal nerves. All these being so many instances of uterine reflex action bringing the distant parts of the economy into connection with the womb, through the medium of the spinal marrow, and its special incident excitor and reflex motor nerves.

Q. 47. Are these facts of any practical utility in devising means for the prevention of abortion?

*A.* Yes; of very extensive practical application, as will be seen when we come to treat of the subject of abortion.

*Q. 48.* Do the expiratory actions supervening in the course of labour give rise to reflex parturient actions?

*A.* Yes; to a very remarkable series of reflex parturient actions, extra uterine in their seat, but which combine and harmonise with the reflex actions proper to the womb—it is found that tumours in the vagina, or the introduction of the hand of the obstetrician may produce the same results as the pressure of the presenting part of the child in labour; in other words, the action of the expiratory muscles is excited in a reflex form by irritation of the vaginal mucous surface.

*Q. 49.* What is effected by the reflex actions of the respiratory muscles as they are exerted in parturition?

*A.* By these the cavities of the thorax and abdomen become involved as auxiliaries to the uterus, and then expulsive actions combine with the proper reflex action of this organ to effect the expulsion of its contents.

*Q. 50.* Are there instances in which labour is effected solely through the influence of the reflex actions of the womb, and its penstaltic power?

*A.* Yes; in cases of paraplegia from disease of the middle portion of the spinal marrow, when the connexions of the womb with the medulla oblongata and the cerebrum—the centres of the respiratory and voluntary actions are severed—labour is in such cases completed by the reflex action of the womb and its penstaltic power alone.

*Q. 51.* Besides the influence of the reflex action of the spinal marrow, and its system of exciter and motor nerves, is there any other agency that influences labour?

*A.* Yes; there is the direct action of the spinal marrow. The state of the circulation affects all the motor organs under the control of the spinal marrow; and they act with increased energy when the circulation is either plethoric or anemic, though in the latter, exhaustion of the nervous energy quickly ensues. There are also certain agents of the materia medica, which, taken into the circulation, affect the spinal marrow. Thus the ergot of rye, passing into the blood, affects the uterus by a direct spinal action, as do also ipecacuan, and borax.

*Q. 52.* Explain the penstaltic or immediate action of the womb.

*A.* All muscles contract when subject to immediate irritation,

even after they have been cut off from the influence of the cerebral and spinal centres, but in the case of muscles supplied by cerebral or spinal nerves, the contraction is limited to the spot irritated, and ceases with the removal of the contraction, but in organs partly or wholly supplied by ganglionic nerves, as the heart, bladder, intestines, &c., of the motion produced is of a penstaltic kind, spreading generally in a semi-circular manner to a distance from the point of irritation, and continuing for some time after the irritation has ceased. The uterus is eminently endowed with this form of contraction which, in natural labour is (so to say) disguised by the reflex actions, but, under certain circumstances, it is able to effect, unaided, the expulsion of the child as in paraplegia.

**Q. 53.** Recapitulate the various forms of motor action belonging to the womb, and their comparative agency in the act of parturition?

**A.** Volition which may be said to affect the process indirectly. Emotion has a direct influence, but it is accessory rather than essential to its performance. Reflex action is the great physiological power, which being absent, the function of parturition could not be properly performed. Penstaltic or immediate action is the basis or radical power upon which the other causes of motor action operate. Here, as in other instances, observes Dr. Smith, "knowledge is power," to know the various sources and modes of motor action is almost equivalent to the ability to guide and control their impulses.

#### NERVES OF THE UTERINE SYSTEM.

**Q. 54.** In what manner may the nerves of the uterine system be best studied?

**A.** By classing them as a distinct group, including the nerves of the ovaria, fallopian tubes, uterus, vagina, and the external parts of generation.

**Q. 55.** Describe the nerves of the ovaria.

**A.** The ovarian nerves are derived from the renal and spermatic plexuses. Dr. Lee has demonstrated these nerves in considerable quantity, as exhibiting numerous ganglia upon the surface of the ovaria. They pass to the ovaria in company with the spermatic artery.

**Q. 56.** Describe the nerves of the fallopian tube.

**A.** These tubes are supplied with nerves from the hypogastric ganglia. Dr. Beck describes additional branches to the fallopian tubes from the nerves accompanying the internal iliac artery.

**Q. 57.** Describe the nerves of the uterus.

**A.** The womb is principally supplied with nerves by the hypogastric and sacral nerves, and by branches from the spermatic plexus. Dr. Lee describes the hypogastric nerve as forming in its descent to the cervix uteri, the hypogastric plexus.

**Q. 58.** Describe the course of the hypogastric plexus, and hypogastric ganglion, according to Dr. Lee's dissections.

**A.** The hypogastric plexus, when it reaches the cervix uteri, terminates in a large ganglion, which he has called the hypogastric ganglion, into the outer and lower surface of this ganglion, numerous branches enter from the second, third, and fourth sacral nerves. This ganglion, thus composed, is considered by Dr. Lee as the centre from which each lateral half of the uterus is supplied. From the hypogastric ganglion, nerves pass in various directions to the os, cervix, body and fundus, and are distributed extensively to the muscular structure and the internal surface of the womb. In the course of their ramifications over and in the substance of the uterus, numerous ganglionic enlargements occur, which maintain extensive connexions with each other, and with the hypogastric ganglia below, and the spermatic plexuses and ganglia above.

**Q. 59.** Describe the nerves of the vagina and external parts?

**A.** The vagina is supplied by branches from the hypogastric ganglion, and from the spinal sacral nerves; the external parts by filaments of the genito-crural nerve, branches of the sacral and pudic nerve.

**Q. 60.** To whom is the credit due of demonstrating by actual dissections the nerves of the womb?

**A.** To Dr. Lee, who has pointed out the great extent of the uterine nerves, the existence of numerous ganglia, and plexiform arrangements upon the uterus; the nature of the ganglia at the neck, and the distention of the nerves to the muscular structure and the internal surface of the organ.

**Q. 61.** Does physiology teach us that there is a necessity for a large supply of nerves to the womb?

**A.** Most undoubtedly. "No one," says Dr. Smith, "doubts that the uterus is susceptible of pain;" this is one proof of a nervous connexion between the uterus and the brain as the organ of sensation. No one doubts that an emotion of the mind may excite the uterus to powerful contraction; this is another proof of nervous connexion between the brain and the uterus. No one denies that during pregnancy, the uterus affects energetically the



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most distant organs, the stomach and mammae, for instance, and that there is also a reciprocal influence from the stomach and breasts to the womb.

Q. 62. What do these physiological facts prove?

A. As communications and sympathies can only take place through the medium of nerves, in the language of Dr. Smith, "there must be nerves, and there must be nerves sufficient for the functions to be performed—anatomical facts can never give the lie to the facts of physiology.

Q. 63. Do the uterine nerves enlarge *pari passu* with the other tissues of the gravid organ during gestation?

A. Most undoubtedly. As has been clearly proved by Dr. Lee, who bases his opinions upon the evidence supplied by his numerous dissections. The nerves of the virgin uterus, and of the gravid organ at the full time of gestation, are, in his dissections, of very different sizes. Dr. Lee, who has dissected the human virgin uterus six times, and the gravid organ of fifteen subjects, further teaches, that after parturition the nerves of the uterus diminish in size very rapidly, as the uterus returns to the condition natural to the unimpregnated state. These dissections are open to any one's inspection at the museum of St. George's Hospital or at Dr. Lee's residence.\*

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CASE RESEMBLING RUPTURE OF THE UTERUS.—By

S. W. J. MERRIMAN, M.D., CONSULTING PHYSICIAN TO THE  
WESTMINSTER GENERAL DISPENSARY, &c.

Mrs. Manning, æt. 28, an Irishwoman, having borne twins at her first confinement, and subsequently a boy, still living, sent for me about a quarter to three a.m., on Nov. 21st, 1848, to attend her in her third confinement. She had for the preceding month suffered much from pain and cough, which caused a gush of waters from the vagina, supposed by her to be the liquor amnii, but which idea proved incorrect; the report of this, however, and the expiry of the time calculated by her for her delivery, had kept me in daily expectation of a message. I have since learned that her cough subsided two or three days before the labour began; but her husband, a gentleman's servant, having, until quite recently, been out of place, she had been unable to procure proper comforts or advice for herself.

Many of these have been doubted.—Ed.

On my arrival, I found her in strong labour; the os uteri was fully dilated, the bag of waters half way down the vagina, distending it favourably, the head lying in the natural position above the pubes—everything appeared to denote a quick and safe delivery. The membranes broke almost immediately, but the head did not, as I expected, come down fairly into the pelvis; it appeared to rest on the anterior portion of the brim only; the pains were very frequent and severe, yet made little or no impression on the head. This induced me to examine the case more closely, and I satisfied myself that the presentation was perfectly natural, the vertex of the foetus being towards the mother's right acetabulum, and the pelvis well formed. The difficulty lay in the head being pressed too much upon the pubes.

This condition having lasted for an hour without any progress being made, and the woman suffering very much, I determined to try the effect of Chloroform, believing the case to offer a very good opportunity for the use of Anæsthetics. I therefore sent to Mr. Hawkesley, a colleague of mine in the West London Lying-In Institution, asking him to bring some chloroform; he very kindly and promptly attended, and administered it by a mouth-piece, invented by him for an ether apparatus when ether was first introduced for anæsthetic purposes, and which mouth-piece resembles much that now used by Dr. Snow.

We also endeavoured, first by moderate pressure with the hand, and then by the application of a binder, to press back the uterus into the axis of the brim, so as to allow the head to descend, but these endeavours were unavailing. On the first administration of the chloroform, the patient uttered a number of sounds (Gaelic?) and rapidly passed into Dr. Snow's third stage of insensibility; for a moment the pains ceased, but presently returned with the same strength as previously, and forced down a scalp-tumour, but did not succeed in dislodging the head. I several times thought that it descended, but it was presently again withdrawn.

After two hours trial of the chloroform, we determined in the hope of producing consentaneous action of all the uterine fibres, to give some Ergot. The condition of the soft parts, and the nature of the pains, being severe, but not very forcing, apparently justifying such a proceeding; an infusion was therefore made and given her in three doses, but instead of increased action, we had a complete cessation of all labour pains.

The patient had before complained of pain, referred by us to the

lower part of the abdomen, where the pressure was made, but we now found that the pain lay principally at the upper part, over the fundus uteri; she had also had retchings from time to time, but now these had become more frequent, and she brought up a little phlegm, and not more than a tea-spoonful of dark fluid; she was much exhausted, but there was no collapse; the pulse was quiet, and of a fair strength. We therefore gave her m. xl. of Battley's Laudanum, and left her at about half-past eight a.m.

I called upon my patient again about half-past twelve o'clock; she had had no pains, but complained much of the tenderness of the abdomen over the fundus uteri; the vomitings continued as before, rather more fluid being thrown up; the pulse small but regular; still nothing which could be called collapse. I passed my finger into the vagina, and was somewhat alarmed at not feeling any part of the child. As, however, the symptoms did not appear very urgent, and as I was obliged to attend some other patient at a distance, I called upon Mr. Hawkesley to ask him to see the patient for me, in a short time. On my return, however, about five p.m., I found, contrary to my expectations, that Mr. H. had only recently received my message; he then, however, immediately visited Mrs. Manning, and found that, after passing his hand almost entirely into the vagina, he still could not feel the child at all.

He immediately gave her two grains of opium, and two grains of calomel, and ordered a saline draught with m. x. of laudanum, to be taken every two hours. I arrived soon after, and on consultation with Mr. Hawkesley, we determined at once to seek Dr. Chowne's assistance. He introduced his hand completely into the vagina, and thus was enabled to reach the child, coming first into contact with a hand. Taking hold of a foot, Dr. Chowne brought it down very easily, and then, after a short delay, he made traction, and slowly delivered the woman of a still-born male infant of large size about a quarter to seven p.m. The placenta followed forthwith, the uterus contracting firmly as its contents were withdrawn. The child was lying within the uterus, and no rupture of that organ was detected in the operation of turning. At half-past nine p.m., I visited her again; she continued to suffer much pain as before, and the vomiting likewise continued. She had just taken a second pill, and was quieted by it. I desired that she should not be moved at all, and that she should take her mixture through the night.

Nov. 22, 10 a.m. She had slept about an hour altogether this

morning; the abdomen had been much swelled, but is now less so; the pain less; she could bear a slight pressure from the hand; had passed water, which, as yesterday morning, was tinged with blood; the lochia rather scanty and pale; pulse about 100, uniform; some retchings still, and vomitings. I saw about 2 ounces of fluid, which she had brought up at six times; no headache, intellect quite clear. She had been placed comfortably in bed about 6 a.m., but the bed was not changed. She lay on her side. 5 p.m.—She had had the mixture only once; rather more distension and pain of the abdomen; pulse about 115, and small. To repeat the mixture with m. v. only of laudanum. 10 p.m.—Again relieved by the opium; pulse under 120; ordered calomel one grain, opium one grain, and to have an enema of gruel. She had taken half a pint of gruel without retching.

23rd, half-past nine a.m. After a second enema, she passed a good deal of flatus, and a little solid fæces; had slept a little; is very susceptible of sounds; vomitings subsided; cough rather troublesome; the sputa is thick and dark coloured; the lochia pretty free; she had passed urine more freely, and bears pressure better, if the hand be kept flat, but complains very much if the points of the fingers are pressed into the abdomen, which is still tense. The pulse 106, firm; tongue slightly brown in the centre and moist; vomits after drinking tea, but not after gruel. To repeat the saline without the opium; also the enema; still lies on her side. 5 p.m.—More distension of the abdomen; vomiting increased, a green shreddy fluid brought up; the pulse weaker, yet of the same rapidity; she feels more weak.—9½ p.m. The bowels have acted freely; skin warmer and moist; pulse fuller; tongue white and expanded; vomitings as before, both when she drinks, and at other times, but without straining; bears pressure on the abdomen better. Ordered a drachm of Epsom salts every hour for four times.

24th, 9½ a.m. She had not passed so good a night; the bowels have acted once; abdomen less swelled; has had after-pains; the lochia continue; no milk as yet; pulse about 100, weaker; tongue cleaner; is thirsty; the vomiting continues; she had taken a saline draught with five drops of laudanum.—5½ p.m. Had had about 2 p.m. a fainting fit, which alarmed her friends; the pulse now 98; in other respects she remained as in the morning. Ordered effervescing saline draughts.

25th, 9½ a.m. Since about 7 p.m. last evening she had been

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purged several times; the vomiting had ceased at the same time, except that about 11 p.m. she brought up at once a good deal. The abdomen was now lax, and no pain was felt till the fingers had descended some depth; no thirst; tongue cleaner, and a little contracted; pulse 100, small and firm; no lochia during the night. She moves more freely.—5 a.m. The pain lies almost entirely in the left groin; pulse 96; tongue white, broader.

26th, 1 p.m. The bowels had acted four times since my last visit; one motion which I saw contained the same kind of green shreds as were vomited; the pulse 104; tongue broad and coated; slight headache; is much weaker, so that she cannot be moved as previously, on the bowels acting; the mind, however, remains perfectly clear. Ordered an aperient draught and beef tea. On this day the milk first appeared in her breasts.

It was necessary to administer an enema before the draughts acted, but from that time the bowels acted very loosely, so that on Nov. 29 I ordered chalk mixture with Tr. Catechu and Rhubarb, as she complained of frequent pain in the left groin, followed immediately by a purging.

December 11. She has gradually improved, but is very weak. Bowels still loose, and the tongue furred; the pulse quiet, but easily excited. She has lain outside the bed, and has taken Infusion of Gentian, with Sal Volatile, as a stomachic.

January 11, 1849. She has been twice down to the next floor, and talks of going out next week; feels a bearing down and pain in the left groin, after standing a little, but this appears to be the effect of weakness; she has a little leucorrhea, and reports a slight catamenial period a few days ago.

Jan. 23. I heard to-day that she has been out of doors, but felt very giddy from weakness. She will call on me as soon as she is able to walk so far.

REMARKS.—There are several points of interest in this case, viz. was there any rupture, or partial rupture, of the uterus, or of the peritoneal covering of the uterus? or was it merely an extraordinary relaxation of the uterus? Such an occurrence as that last mentioned is most unusual, and therefore unlikely to have happened in this case, because it is natural to expect that during the three hours the pains continued after the rupture of the amnios, the uterus would have become so contracted around the body of the foetus, that it would not become dilated again without some other more efficient cause than was apparent. There are, however,

proofs that such relaxation may sometimes exist, for Dr. James Reid, in the *Medical Gazette* for 1834 (page 463), mentions a case resembling rupture of the uterus, which proved to be merely over-distension by an immense quantity of liquor amnii; and also, another case (*Gazette* for 1835, page 145) in which the uterus remained flaccid in the lower part, some hours after the escape of the liquor amnii, and the complete dilatation of the os uteri, yet no part of the child could be felt, but this was occasioned by the fundus uteri having contracted around the child, and retained it high up, beyond reach, until the hand had been introduced completely into the uterus.

In these instances, therefore, there were efficient causes to explain the anomalous condition of the uterus described; the question therefore arises, whether the co-existence of previous debility, irregular uterine action long continued, chloroform, and ergot, are sufficient to produce the relaxation mentioned in my case, accompanied by the other symptoms of rupture of the uterus? The solution of this question I must leave to others to determine.

I have never heard of, or seen, so complete a suspension of uterine action from the inhalation of chloroform, and cannot conceive that its action could endure for so long a period as twelve hours, but we have by no means yet gained a complete knowledge of the effects of chloroform on the human body, and therefore I think it right thus to allude to a possible action of that anæsthetic.

Again, supposing that rupture did occur, is it possible that the chloroform had so far paralysed the muscles of the uterus as to prevent their contraction, and the consequent expulsion of the fœtus into the abdominal cavity, thus avoiding one great excitant of peritonitis. I can hardly conceive this to be possible, as the uterus contracted so regularly while the child was being withdrawn.

But putting aside the possibilities of these supposed effects of chloroform, we have abundant proof that cases of rupture of the uterus, accompanied with the complete escape of the fœtus and placenta into the abdominal cavity, do sometimes recover. Dr. Douglas, in his excellent treatise on this subject,\* mentions four such cases, one of whom, however, only survived five months, but others subsequently bore children, and Dr. Ramsbotham† mentions three; several other cases are on record. The case of Mrs. Manning,

\* Observations on the Rupture of the Uterus, by Andrew Douglas, M.D., 1786.

† Practical Observations in Midwifery, part 2. By John Ramsbotham, M.D., 1832.

however, appears not to have been so severe a case as those. Sir Charles Clarke and others\* have described cases of laceration of the peritoneum over the uterus, which all proved fatal, but if the number of lacerations be less than there described, or if there being only one, that is of small extent, I do not see why recovery may not take place.

As contra-distinguished from this species of accident, there is the reverse, viz. laceration of the uterine fibres, not extending through the peritoneal covering. Such a case I can conceive as not unlikely to recover, and also as not improbably the accident which really befell Mrs. Manning, some of the uterine fibres having become lacerated in their endeavours to propel the child lodged upon the pubic bones.

In most of the cases on record where life was prolonged for several days after a rupture of the uterus, whether known, or merely supposed to exist, bleeding of some kind was found to be necessary: it is worthy of remark, that in my case there was no call for any such treatment. How far this may indicate the absence of any laceration I am unable to decide, but if any of your readers have met with any analogous cases, I hope that they will be induced to publish them.

### DR. TYLER'S REPLY TO MR. BRAID.

Dublin, February, 1849.

My dear Sir,

I am sorry to find in the last number of the *British Record* just received that any member of our scientific profession, at the present day, should feel himself called upon to defend a practice which I, in my ignorance (?) had unwittingly consigned to the tomb of the Capulets. In the letter referred to, Mr. Braid has accused me of attacking mesmerism coarsely and illiberally. If the language employed by me on interring his favourite was coarse or illiberal, I willingly offer an apology for the same, but in doing so, do not think myself called upon to yield an iota as to the pith and full meaning of the expressions objected to—on the contrary,

\* Case of Sudden Death during Parturition, &c. By Mr. C. M. Clarke. Transactions of the Society for promoting Medical and Chirurgical Knowledge, vol 3. Case of Sudden Illness, &c. &c. By W. H. Partridge, Esq. Medico-Chirurgical Transactions, vol. 19. John Ramsbotham, M.D., Op. Cit. part 1, case 86.

will endeavour to express myself in still stronger terms, condemnatory of the practice, without, I hope, earning a reputation for "coarse and illiberal attacks," epithets I would be sorry indeed on any occasion, or in the advocacy of a cause, no matter how much prepossessed in its favour, ever to merit. However, when I find individual members of our profession attempting to sap the very foundations of a noble and ancient science, by lending themselves to the propagation of errors, perhaps conceived in a philosophic spirit, and I will do those advocates of mesmerism even at this day (as Mr. Braid maintains there still are) the common justice of admitting that their motives are pure, conscientious, and disinterested, am I not to be excused, although I may express myself in terms no doubt unpalatable to some, but which I sincerely believe to convey the sentiments of the mass of the profession?

The medical science would indeed be a degraded art, and well worthy the cultivation of charlatans, jugglers, witches, and impostors, did it admit within its scope the application of supernatural means for the purpose of overcoming the weakened or prepossessed senses. This would be retrograding to the days of witchcraft and necromancy, were we to admit any such principle to exist. And what else can mesmerists claim as the basis of their delusion? Can they explain in a true philosophic spirit the source and nature of the phenomena which they excite or call into action? Until they can do this, or afford to the thinking, cool-minded portion of the profession some incontrovertible guarantee that mesmerism is not an imposition upon the senses, they have no right to class it amongst the sciences, or object to any tone of language, no matter how strong or expressive, deprecating its practice.

Mr. Braid says, "In limine, I beg to observe, that *strictly speaking* I am not a mesmerist, inasmuch as I differ from the mesmerists, in my mode of explaining the phenomena, as also in respect to the extent of the *genuine* phenomena." Now I should very much like to know these *genuine* phenomena, together with Mr. Braid's true explanation of them; and I am sure your readers will not consider it unprofitable matter were he to state them fully in a future letter, to the satisfaction of all *reasonable scruples*. Mr. Braid seems to think that I am a zealous partizan of the cause of anæsthesia, when produced by other means than mesmerism: now, on a more careful perusal of my lecture to the end, when fully published, he will find that far from being convinced of the infallibility of chloroform, although it routed, in my opinion, both mesmerism and ether, I



look upon it in the light (if I may so express myself) of a French revolution, which promises the most happy results, but eventually ends in a return to the old order of things.

I may be accused of inhumanity in thus condemning indiscriminately human attempts at alleviating the sufferings of mankind; but when I reflect upon the rise, progress, and end, of similar attempts, I cannot arrive at any other conclusion than that experiments undertaken with a wild, unphilosophic fanaticism, reckless of results, only tend to perpetuate our ignorance, and distract our attention from pursuing the true and useful object of a physician's life, acquiring and storing up practical knowledge, to be afterwards applied, when sanctioned by the test of experience, to the alleviation and cure of disease. Now, Mr. Braid, or even the warmest supporters of mesmerism (for I perceive your correspondent is only lukewarm) cannot deny that their cause has been long enough before the profession to establish its true character, and when an Elliotson can be named as its champion (would he were not its victim?) no one can assert that mesmerism has lacked talent on its side. Yet how does it happen, with all these advantages, that mesmerism is, I maintain, no more in these islands—I speak generally, but considerably. Are we to form a contrary opinion because the *Zoist*—a partizan periodical—asserts the reverse, whilst still puffing at the flickering spark, or attempting to ignite the embers which chloroform has effectually quenched. Nor am I inclined to alter my opinion as to the fate of mesmerism in these countries from the fact of a Governor-General of India sanctioning the practice at Calcutta, on the strength of “the high” favour in which it was held by the *most influential natives*, whose zeal in Dr Esdaile's cause led them to present a memorial in its favour, and of course thereby secure the promotion of their protégée.

In conclusion, I have only to say, let Mr. Braid, or any other supporter of mesmerism, prove to us the benefits which will accrue to suffering humanity, from the adoption of its practice in the treatment of disease, and I, for one, promise to throw aside my unbelief, and vote for its introduction into our Pharmacopœias, under the head of *Imponderables*.

I remain, yours faithfully,  
ALEX. TYLER.

NOTE.—With this reply the controversy must end.—ED.

REMARKS ON THE AIR TRACTOR, PROPOSED BY DR.  
 ARNOTT IN 1832, AND APPLIED BY PROFESSOR  
 SIMPSON, IN JAN. 1849, TO PRACTICE  
 CLAY, M.D., EDITOR, MANCHESTER.

The Pneumatic Tractor, proposed by Dr. Arnott to obstetricians as a substitute for the forceps in 1832, has lately been applied to practice (Jan. 1849) by Professor Simpson, in two or three cases successfully. Seventeen years having elapsed since the suggestion was made, it is reasonable to ask why it has not been applied before? Certainly not because the profession were *unacquainted with the fact*, but rather that it was not looked upon as of *sufficient utility or effect* to supersede the forceps, except in a *very few cases*, and in those it was questionable if simpler measures were not more available.

It is evident (and allowed by its inventor and applier) that in cases where powerful traction is necessary, the air tractor is *not available*. It is also allowed not to be effective in *correcting malpositions of the head*. Therefore, the only advantages it possesses are more than counterbalanced by the objections which are stated in the *British Record*, Feb. 1st, page 60.

Experience is as yet too limited to confirm its utility. There is a point or two respecting it, however, I wish to notice at this time. Dr. Arnott distinctly proposes that the air tractor for obstetric purposes should *not* partake of the character of a cupping glass, that is, have a large internal surface to exhaust of its air, but, rather to be analagous to the shallow dish of a leather sucker (*used as a toy*). It appears evident that Dr. Arnott was aware of the great misplacement (that might possibly take place) of the soft parts of the child's head, *internal as well as external*, if the instrument had a large interior, which mischief would be avoided if the surface was a shallow concave dish, *as the leather sucker*, independently of its being almost instantly exhausted of air by a syringe, which, in the other case, would be tedious and difficult. Dr. Simpson's application, however, was a speculum exhausted, which has all the objections of the instrument *in any form*, in addition to those hinted at by Dr. Arnot himself.

I will not enter into the discussion of its mode of action, although I believe Dr. Arnott's views *obstetrically* are wrong, but I will

endeavour to show that, in the class of cases where the air tractor could by any possibility be of advantage, much simpler means than *either it or the forceps* would be effectual. Within the last quarter of a century I have witnessed very many cases of powerless labour where the head was well down upon the perineum, and where nothing was wanting to complete delivery but a good propelling pain, but which was not to be had. In such cases, one blade of the forceps, a common tractor, or the short forceps, will easily effect delivery in a few minutes, but as instruments are at all times objectionable, and as the outlet is at such periods tensely on the stretch, the mechanical means generally proposed only tend to increase the danger of laceration by occupying space that is too much occupied already. I therefore propose the following method, which I have frequently adopted with the most *immediate and happy results*, and which will be easily understood by referring to the annexed plate. Thus placing the index and long finger of the right hand upon the perineal edge (as at *A*. *Vide plate*.) to protect from laceration by gentle pressure; at the same time, placing the thumb of the *same hand* over the frontal bone of the foetal head *at or near the maternal anus* (as at *B* in the plate). Then, a steady pressure forward *with the thumb only*, and *that in the axis of the outlet*, will most expeditiously and easily effect delivery. I feel certain that in *all cases* where the air sucker *could be available*, *I could deliver by this simple and effective means*, and in cases where this plan would not be efficient, it would be equally hopeless to adopt the *air tractor*.

It is at all times desirable rather to lessen the number of obstetric instruments than increase them, and I trust the suggestions here given will not be without their advantage. I again repeat, the action of this air tractor is too much on the scalp of the child—malposition cannot be corrected by it—misplacement of the soft parts of the foetal head probable, and mischievous. If the interior of the tractor be capacious it will be difficult to exhaust: if much hair be on the child's head, exhaustion will be next to impossible. Taking these points into account, with others which might be suggested, I have no anticipation that either the forceps or old tractor will be superseded, because, where the air tractor is really available, neither forceps or old tractor are necessary, but the simple means I have proposed; in the application of which no space at the outlet is occupied by instruments.

1. The first step in the process of identifying a problem is to define the problem. This involves identifying the symptoms of the problem and determining the scope of the problem.

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A COURSE OF LECTURES ON PRACTICAL OBSTETRICS.—BY ALEXANDER TYLER, M.D., LECTURER ON MIDWIFERY, ETC., DUBLIN.

*(Continued from page 69.)*

That troublesome and dangerous disease, mania, has, in more than one instance, been traced to the unfeeling treatment of the attendants; nor is it to be wondered at, that the mind of some females, so susceptible at all times of disrespect, should, when weakened by the usual concomitants of the puerperal state, give way entirely, not being able to resist the conjoined influences of bodily suffering, and of mental irritation. By a vaginal examination we learn, not only as to whether labour has commenced, but we may acquire a knowledge of data, by which we can often accurately pronounce as to the progress and probable duration of it. With reference to the ~~first~~, there can be no clearer proof of the commencement of labour, than our finding the mouth of the uterus open, admitting one or more fingers; and, together with this condition of the os tincæ, a protrusion of the membranes which contain the liquor amnii and child, during every successive pain. The fact of the vagina being moistened with a copious secretion of mucous, sometimes tinged with blood, which adheres tenaciously to the point of the finger, affords still stronger corroborative evidence of the existence of a disposition favourable to the process. The progressive dilatation of the os uteri, and the rupture of the membranes allowing the escape of the contained liquor amnii, confirms our opinion, and leaves no doubt of the actual progress of parturition. We shall best succeed in describing to you the special duties of the accoucheur, during the progressive stages of labour, by taking each stage in detail. During the first stage, which may appropriately be called that of preparation and dilatation, the close attendance of the practitioner is not required; on the contrary, after satisfying himself by a careful vaginal examination, that the child presents a head, (the most favourable presentation for nature,) it behoves him merely to give such directions as are most likely to promote the comfort of his patient, and to assist the natural efforts. Now the first object is most fully attained, by allowing your patient to walk about, in place of confining her from the first to the recumbent position, as too generally is the case. This exemption from restraint, at a time

when it only frets and annoys, tends to raise the courage and drooping spirits of the patient; and afterwards engenders a degree of confidence in your skill and foresight, not easily to be ever shaken. The means calculated to effect the second end will come under our notice, when speaking of the impediments to the natural progress of the first stage of labour, under the head of Causes of Difficult Labour. During the second, or expulsive stage, the accoucheur should not be absent from the lying-in chamber: now it is incumbent upon him to confine his patient to her couch, which should be formed of a hard mattress, laid upon a small low bedstead, such as grown up children are usually accommodated with, and placed alongside of the ordinary bedstead. On this couch, as it is called, the various manipulations required to be executed during the second and third stages of labour, can be performed with a facility and perfection, not possible if the patient is lying in a feather bed and bedstead of the usual height and dimensions; not only this, but also the comfort of your patient is doubly ensured after the completion of labour, when you have her own bed ready for her reception, undisturbed by the disagreeable attendants of a confinement. The advantage of the couch is still greater in all labours requiring instrumental or manual operations; on it we have complete power and freedom to operate, which is not the case in the other instance. As to the position of your patient:—In these countries we place her upon the left side, as the best to be delivered on, and as being more consonant with the delicate feeling of modest females than the position of the back, adopted by the French accoucheurs. Our patient being placed on her couch, in the obstetric position most approved of, viz.—lying upon the left side, with the thighs slightly flexed, and the legs bent back upon them, it becomes next incumbent upon us to ascertain the position of the child's head. This information is acquired by the sense of feeling communicated to the finger, on passing it over the presenting head; and at the same time noting the situation of the fontanelles, and direction of the sagittal suture: this may appear a very simple task to accomplish, and so it is, in most cases, when the pelvis is sufficiently capacious to allow of the descent of the foetal head, without its being subjected to much compression; but when the latter is the case, and that a soft puffy tumour has formed under the scalp, (called a caput succedaneum,) I look upon the acquirement of this information, simple as it is in ordinary cases, to be in these instances attended with a great degree of difficulty, and even uncertainty. I have known accoucheurs, who professed

great accuracy of diagnosis in deciding such points, and who were really expert from practice at it, to make mistakes; therefore am not ashamed to confess, that often have I been unable to pronounce with certainty in which of the following positions the head was placed. Eight presentations of the head, or cranium, are given by authors; all of which can be imagined, and it is possible, may exist, at one period or other of labour; but in practice, I believe you will seldom meet with more than four. If you take them as eight, the first position is with the face towards the right ilium, the sagittal suture running transversely across the pelvis from side to side. The second is the reverse of the first, viz.—with the face towards the left ilium, &c. The third, according to this arrangement, is when the head is placed diagonally, with the face towards the right sacro-iliac synchondrosis. The fourth, when the face is placed towards the left sacro-iliac synchondrosis. The fifth is the reverse of the first, viz.—the occiput to right sacro-iliac synchondrosis. And the sixth the reverse of the fourth,—the occiput being towards the left iliac synchondrosis. The seventh is when the head attempts to pass, with the sagittal suture parallel to the conjugate diameter, the forehead impinging on the promontory of the sacrum. The eighth and last is exactly the reverse of this, the occiput being towards the promontory of the sacrum. Now the Germans have greatly simplified our classification of cranial presentations—they only allow the existence of four. The first German presentation, as adopted by Nægele, from its being most frequently met with, is that classed third in the above arrangement. The second German position corresponds with the fourth; and the third and fourth, with the fifth and sixth. I shall, in my next lecture, when describing to you the mechanism of parturition, offer some remarks upon the comparative advantage of these two different arrangements; and endeavour to prove to your satisfaction, that the German, which we intend adopting throughout this course, is the one followed by nature, and sanctioned by experience.

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## LECTURE II.

However anxious you may be to ascertain the position in which the child's head presents, you must recollect that it is not justifiable to rupture the membranes for the purpose of satisfying yourself upon this point. If they have given way previously, and the liquor



amni has escaped, then there can be no objection to your examining patiently and minutely, in order to attain this information; but where the membranes are protruding, and dilating the vagina and external orifice, although the os uteri may at this time be fully dilated, it is very wrong to risk their integrity, by attempting to diagnose the cranial position through them in that state. We have reserved the interesting subject of the mechanism of labour for this day's lecture. Whether we examine the formation of the foetal head, consisting of a bony case, able to resist such pressure as might endanger life, yet sufficiently pliable, when compressed under the influence of uterine action, to mould itself in certain cases, or refer to the beautiful rounding, smoothness, and bevelling off of the internal surface of the female pelvis, we must be forcibly struck at the admirable forethought and design displayed in adapting the first for a safe and easy transit through the latter. Our countryman, Sir Fielding Ould, one of the earliest masters of the Brittain Street Lying-in Hospital, has the credit of correcting a most fatal error, with regard to the position of the child's head when entering the brim of the pelvis. There is no stronger proof of the want of observation and analyzation amongst the early accoucheurs, than the fact, that up to the middle of the last century, none of them had attempted to dispute the old and received opinion, that the head entered the pelvis, as it was observed to make its exit with the sagittal suture parallel to the conjugate diameter. No educated individual, who took the trouble to compare the shape of the child's head with that of the pelvis, could have fallen into this egregious error; yet we find it was the prevailing opinion, until contradicted by Ould, in 1742, who maintained that the head entered the pelvis, with the sagittal suture parallel to the transverse diameter. This conclusion, no doubt, was arrived at by Ould, after examining the pelvis denuded of its soft lining tissues, and not from the fact of natural observation on the living subject; we can thus account for his falling into a second error, although by shaking the confidence of reasoning men in the old established opinion, he thus really paved the way for the discovery of the most frequent position for the head to present in. Had Ould examined the pelvis carefully in its recent state, and noted the degree to which the lateral diameters are encroached upon by the Psoæ and Iliacus, internus muscles, &c., it is probable he might have been led to the natural fact, by observing, that in the living subject, the longest diameter of the pelvis at the brim is not from side to side, but in an oblique direction;

and that therefore, following up theory by practice, it was parallel to the oblique diameter of the brim, he would find the sagittal suture of the foetal cranium running. Smellie was the first British author who appears to have studied the mechanism of parturition, with the view of ascertaining the true rationale of this beautiful process. He agreed with Ould, in so far as regards the presentation of the head at the brim of the pelvis—thus perpetuating the error of the former upon that point, and by supposing and teaching that the shoulders of the child passed parallel to the antero-posterior diameter, shows that his investigations upon the subject were far from accurate: however, he deserves great credit for drawing more particular attention to the axes of the gravid uterus and foetus at the commencement of labour. Ould and Smellie appear both to have studied the mechanism of parturition upon the skeleton pelvis. Levret has the credit of pointing out a serious omission committed by them, in reference to the diameter of the pelvis during labour. Ould and Smellie maintained that the transverse diameter of the brim was the longest. This Levret admitted was the case, when the pelvis was denuded of all its soft coverings; but shewed how considerably the relative diameter of the transverse and oblique measurements were altered, by the Psoæ and Iliacus internus muscles, which encroach so much upon the sides of the pelvis, especially when in action, or swollen, as they are liable to be during the second stage of labour, so as in fact to render what in the skeleton pelvis is the longest diameter, in the living subject during the act of childbearing, if not the shortest, at least shorter than the oblique. A countryman of Levret's, Solayres de Renhae, professor of midwifery at Montpellier, threw still further light upon this hidden subject, by the publication of a dissertation upon parturition; in which he proved that the most frequent position for the head to present in, is with the sagittal suture parallel to the right oblique diameter of the pelvis; the posterior fontanelle of the child's head being directed towards the left foramen ovale. The same opinion was entertained and promulgated by Saxtorph, of Copenhagen, in a pamphlet published about the same date, without, it would appear, his being aware of De Renhae's views; so it is generally agreed that Saxtorph, and Solayres de Renhae, are both entitled to the merit of improving upon Levret's original observation; and by closely investigating the natural process of labour, although at the distance of some hundred miles from each other, arrived both at the same conclusions—the surest proof of their correctness, which time and the lengthened

experience of others has confirmed. The first position of the head being thus established on the united testimony of the profession, it remains for us to describe to you the second, or next most frequent position for the head to enter the pelvis. This discovery, of more recent date, was made by Professor Nægele, of Heidelberg. Hitherto, most authors described the head in the second position, as entering the pelvis with the forehead towards the left sacro-iliac synchondrosis; or, as technically termed, in the left oblique diameter. Now Professor Nægele, after repeated and most carefully instituted examinations, made at the commencement of labour, ascertained for a fact, the second most usual position for the head to enter the pelvis, is with the anterior fontanelle, or forehead, towards the left foramen ovale, the sagittal suture running parallel with the right oblique diameter, as in the first position; with this difference, that the long diameter of the child's head is reversed in the second. In order to account for the very general mistake committed by other authors, who assigned to this position the third rank, he offers a very simple explanation, namely, that they examined at a later period of the labour, when, according to his observations, the forehead, from being at first towards the left foramen ovale, turned to the sacro-iliac synchondrosis of the same side; thus changing the long diameter of the head, from the right, into the left oblique diameter, or second position of authors, as the labour progressed. Carrying out this view in theory, some authors, from analogy, have argued, that the first presentation should be described as with the forehead towards the right foramen ovale; and account for the fact of its being most frequently found towards the right sacro-iliac synchondrosis in the same manner as Nægele accounts for the discrepancy of opinion as to the relative frequency of the second and third positions of the old German school. This line of argument, as applied to the first and fourth positions of the Germans, does not appear to be borne out, in the second instance, by experience; as in the first, was proved by Nægele to be the case. If it were so, then we might limit the number of presentations in the oblique diameters to two, in place of four. That the long diameter of the child's head ever presents parallel to the conjugate or transverse diameters of the pelvis, is now pretty generally denied by all well-informed and experienced accoucheurs.

Having discussed the subject of cranial presentations, we have next to describe to you the passage of the child through the pelvis. This is ascertained to be a much simpler, and less complicated pro-

cess, than the older writers endeavoured to persuade their readers. From the time of Ould and Smellie, it was believed that the long diameter of the child's head always turned as it advanced, with the face or occiput, as the case might be, into the hollow of the sacrum : now the necessity of the head's making this turn has by no means been proved ; on the contrary, it would appear that the head not only enters the pelvis in the oblique diameter, but that it passes through, and is expelled, without changing from that position.

In like manner with reference to the shoulders ; it is not essential to imagine, as Smellie did, that they likewise necessarily turned into the hollow of the sacrum ; for when the long diameter of the head takes one oblique diameter, the shoulders will naturally pass through the other, without any twisting or turning of the child's body being required to explain the simple fact. Having thus cursorily alluded to the presentations of the cranium, or, as most usually styled, vertex presentations, it now remains for me, before dismissing the subject of the mechanism of labour, when the head presents, to make a few observations upon irregularities met with in practice. The first worthy of notice are the deviations from the usual course, sometimes taken by the head, in its passage through the pelvis. The third and fourth positions, according to the Germans, have been already described to you as merging gradually, during the progress of labour, into the first and second positions of the same authors. This is the general, but not universal rule, with regard to these presentations ; it is now my duty to point out a course sometimes, although rarely, taken by the head, when presenting with the forehead towards the foramen ovale, viz.—that it is expelled in that position, without the head making its usual half turn, and thus changing its oblique diameter, as generally happens. These exceptional instances are those described by former writers, as face to the pubis cases ; the head being born with the face looking obliquely forwards, in place of backwards, as commonly is the case. And you will find this species of labour described by most writers as one attended with unusual difficulty ; an opinion which coincides with my own limited experience of such labours ; the cause of difficulty appearing to depend, (as shewn by Solayres de Renhae,) upon the greater breadth of the forehead, and difference of curve, as compared with the occiput ; not adapting itself, as the latter does, to the arch and rami of the pubis, thus retarding delivery.

An important order of head presentations, which may well be described as a deviation from the ordinary, natural, or vertex pre-

sentations, and which indeed, at one time, were considered not only unnatural, but as imperatively demanding the interference of art, deserve of us, at present, an attentive examination. The face, like the cranium, is found to present with its long diameter, (taken from the chin to the forehead,) in one or other oblique diameters of the pelvis; and its positions may, in like manner, be described as occurring in the same order; although from the comparatively speaking rare occurrence of these presentations, the same amount of practical information, as to their order of occurrence and subsequent mechanism, is not to be expected. It is pretty generally thought that most face presentations were originally one or other of the vertex positions already described, although all admit that in some instances, the head comes down at the outset, in this awkward position; such instances are, however, of rare occurrence, and must be considered as exceptions to the general rule. However, there is one ascertained fact, with regard to face presentations, which must be looked upon as a valuable acquisition to our knowledge, as respects the result of these labours; viz.—that they will, in the majority of instances, (the pelvis being roomy, and the child's head not unusually large,) be terminated naturally and safely, for both mother and child; at the same time it cannot be denied, that both the soft structures of the mother, and the life of the child, are more or less endangered in a great number of face presentations. Nor is it difficult to explain to you why these dangers should exist in a greater degree in these instances, than where the head presents with the cranium the most depending part. In the first place, no matter how the face may have presented, whilst the head is at the brim, it will be invariably observed that, as it advances into the cavity of the pelvis, the chin occupies a position behind one or other acetabula, throwing the occiput backwards towards the opposite sacro-iliac synchondrosis; and when the face comes to be expelled, through the external soft structures, the great diameter of the foetal head lying across the oblique diameter of the outlet, subjects the lower part of the vagina and perineum to increased danger of laceration, unless very great care indeed be taken to retard the rapid progress of the head's expulsion; and if possible, by counter pressure upon the brow, to cause the face to descend more obliquely. The increased danger incurred by the child, in face deliveries, was early pointed out by Smellie, to depend upon the long continued compression to which the brain and vessels of the neck are subjected, from the awkward position of the former, and the twisted condition of the

latter, rendering the return of venous blood upon the brain by the jugulars not only difficult, but in long protracted cases, when the face and neck have become wedged in the pelvic outlet, impossible. Thus face presentations are to be considered, not only as more unfavourable than those of the cranium, both for mother and child; but as attended, in a number of instances, with danger and difficulty in their results and progress. However, it must be borne in mind, notwithstanding our just dread of the termination of these labours, if there be but a slight disproportion, even between the foetal head and pelvic diameters, that the united testimony of the profession agrees in looking upon these deviations from the usual course as perfectly consistent with the natural progress of the case; and although some recommend you to rectify these positions by manual or instrumental interference, I believe I am right in stating, that experienced practical accoucheurs look upon all such attempts as futile in the majority of instances, and as attended in all with an amount of danger, which we are not justified in subjecting our patients to for the mere sake of obviating the risk of lesser ills.

Besides the irregularity of the face presenting and coming first into the world, several other irregular head presentations are mentioned in authors; as for instance, the brow, the hind head or occiput, and thirdly, ear presentations. Now, as these are to be considered mere modifications or degrees of either face or cranial presentations, they deserve merely to be recorded as such; not being of sufficient importance to merit a place amongst those chosen, from their frequent occurrence or marked character, to be types. In the foregoing remarks upon the positions and mechanism of labours, so called natural, because the head presents, I have purposely been brief, and have omitted to mention the characters by which you are enabled to diagnose the various positions laid down as occurring in practice; for I feel assured that this kind of information is only to be gained at the bed side, after most patient and diligent investigation on the part of the student; he, of course, possessing an accurate knowledge of the anatomy of the pelvis, and of the structure and feel of the different points of the foetal head. By making himself familiar with these, during the course of his preliminary education, he will find no difficulty in educating his finger, so as to be able, in all ordinary cases, to acquire accurate information as to the true situation of affairs, and be able, in many instances, to offer a decisive opinion, as to the probable duration and results of any case in point. Before giving such an opinion, we ought to take into consideration the

various features of each individual case ; and weigh all collateral circumstances which may influence, in any way, the result. After having carefully done so, (and having come to a conclusion in our own mind,) we are then prepared to hazard an opinion, if favourable to the patient herself, if not so, at least to apprise the friends of our fears or suspicions, by which means, timely precautions may be taken, and much unpleasant reflection subsequently avoided.

As it is not my intention to pursue, in this lecture, the subject of the mechanism of parturition, when other parts of the child present besides the cephalic extremity, we shall now conclude to day with a few observations upon your duties at the bed side, during the close of the second and remaining stage of labour. When the head has fairly engaged in the pelvis, and is advancing upon the outlet, we must insist upon our patient keeping the recumbent position, from this time out ; as once the labour is so far advanced, if the pelvis is shallow, and the outlet wide, the presenting part may, under the influence of a few powerful pains, be thrown unexpectedly upon the perineum ; which, if not relaxed, and the patient happen to be at the time in the upright position, is almost certain to suffer a laceration. The recumbent position, at this stage of the process, therefore, cannot be too strictly enjoined. Our next duty, as soon as the head, escaping from the outlet, distends the perineum, is to apply counter pressure, in order to prevent the too rapid expulsion. This is called supporting the perineum ; since we, as well as applying counter pressure, also push forward the intervening tissues ; by this means making up for the loss sustained by the soft parts in the more immediate neighbourhood of the vulva, and compensating, if I may so express it, for the sudden demand upon their distensibility, by approximating a fresh supply, available when required. How contrary to the principle just laid down, is the practice of some, who look upon this simple manœuvre only in the light of a means calculated to expedite delivery ; and in place of retarding the too speedy expulsion of the head, actually encourage its exit, by pushing the head forward through the perineum ; or, what is worse, drawing the perineum backwards over it. There are cases when either of these methods may be practised with impunity : but for every such instance I believe there must be fifty other instances where such practice will be decidedly injurious ; better far to leave the perineum entirely unsupported ; as in the first instance, mischief is almost certain to attend the ill-judged interference ; and in the latter, we leave nature entirely to her own resources, which in every case is better than injudiciously to attempt to thwart her intentions.

By far the most effectual, and safest mode of supporting the perineum, is with the palm of the right hand applied from behind forwards; the thumb and opposing fingers being separated by the fissure; and a thin soft napkin, merely for cleanliness' sake, being interposed between the hand and perineum. As soon as the child's head is born, you should pass your finger into its mouth, and remove any adherent mucous, or portion of membranes, which, if left, might get into the air passage and cause serious inconvenience, or even arrest the full establishment of respiration. This may be done with the fore finger of the right hand without removing the palm, or you may now change hands, supporting the soft structures during the passage of the shoulders with the left hand sideways, or applied with the fingers pointing backwards, the palm forwards: after exploring the child's mouth, your next care should be to pass a finger of the hand disengaged down the child's neck, for the purpose of ascertaining if there be one or more loops of the chord twisted round it; if such be the case, we should attempt to unloop the coil, or coils, one by one over the occiput: if this manœuvre be impracticable without undue force, it would be safer practice to cut the chord with a blunt-pointed pair of scissors, and drawing out the shoulders immediately, to get hold of the foetal end of the chord, than to run the risk of separating the placenta, inverting the uterus, or lacerating the chord—one of which accidents must inevitably occur should the chord be tense, and violence used in trying to force the tightened loop over the head; besides the child's life is endangered from strangulation in every such unjustifiable attempt.

After the birth of the head, in all natural and uncomplicated cases, where we are not called upon to deliver rapidly, it is our duty to await the expulsion of the shoulders and trunk of the body, merely encouraging the mother and exciting the uterine fibres to contract, if necessary, by gentle friction over the fundus uteri. It is also a good rule to direct the nurse to follow down the uterus into the pelvic cavity as it gradually recedes from the abdomen, and to retain a steady pressure over its diminished surface with the palm of the hand, until we are prepared ourselves to pin on the binder or abdominal supporter. The next duty is to look after and separate the child: should respiration be weak, or the head appear congested, we are bound to wait, in the first case, for the full establishment of that important function; and in the second, if the child be strong and vigorous, to allow a drachm or two of blood to flow from the umbilical chord before applying our ligature. In any case we should never rashly tie our ligatures upon the chord the moment the child



is born, as we often see done, the accoucheur forgetting the interest of the child in endeavouring to free the mother quickly. The importance of these directions will be more fully impressed upon you in a future lecture, when I am engaged in treating of still-born children, and the various restorative measures to be had recourse to with a view of resuscitating them from the state of asphyxia. We now return to the binder—this useful appendage so much undervalued and despised by those who do not apply it themselves, and trust one to do so who does not know how. I shall not enter into a disquisition upon the merits of the different materials and form of binder used; for my own part I am always content when handed a plain calico article, sufficiently long to meet and overlap round the pelvis, and broad enough to reach from the lesser trochanter of the femur to the margin of the false ribs; any appurtenances, such as strings or stiffeners, I would rather dispense with, the former being in the way and not wanted, and the latter are certainly injurious. However, in order to be able to dispense with strings, you must be supplied with pins of proper calibre and strength—not the flimsy ones to be procured from the dressing-table pincushion: three are all you require, therefore your pocket stock need not be cumbersome. The whole art in adjusting the binder, consists in applying it so as to exert a certain degree of counter pressure over the fundus uteri, which prevents that organ rising high in the abdomen, or enlarging from accumulations of blood in its cavity. Now this end can be attained by a moderate degree of compression, used in tightening the binder before inserting the middle pin; however, unless you have previously secured the lower side, by first pinning that border securely in the hollow between the trochanter and the spinous process of the ilium, the binder slips up and the desired compression is removed or else misapplied.

*(To be continued.)*

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THLASPI BURSA PASTORIS IN MENORRHAGIA.—In a case of menorrhagia which had resisted ergot, astringent injections, &c., M. Vanove employed a decoction of this common herb with complete success. The woman was exhausted to the utmost degree when this medicine was commenced. The formula used was a decoction of a handful of the fresh plant in three tea-cups of water, boiled to two; the dose was a cupful twice a day. *Rev. Med. Chir.*, December, 1848.

A COURSE OF LECTURES ON PRACTICAL OBSTETRICY.—BY ALEXANDER TYLER, M. D., LECTURER ON MIDWIFERY, ETC., DUBLIN.

*(Continued from page 100.)*

LECTURE III.

The concluding observations of our last lecture, having reference specially to the management of the placenta and secundines, still contained in the uterine cavity, it now remains for us to enter upon this important and much disputed point. I endeavoured then to impress upon you a sense of the value of a well-adjusted binder, and to point out to you the necessity of applying it yourself, with care and attention to one or two simple rules: it will be more apparent to you now, when I am engaged in describing the conditions of the uterus essential for a safe and propitious termination of the third stage of labour; these are an equable, firm, and continued contraction of the uterine fibres. Now, let me ask you how are these conditions essential to the termination of this stage and also to the safety of the mother, to be so well secured by the watchful and conscientious attendant, as by the means already recommended in the last lecture, viz.—leaving the expulsion of the trunk and lower extremities of the child to be effected solely by the uterus itself, stimulated, if necessary, externally by friction with the hand over the abdominal surface, and internally, should the child be alive, with the active movements of the foetal limbs against its sensitive parietes; what next more likely to secure this state of tonic contraction of the uterus than the assistant being directed to follow down the viscus with her hand into the cavity of the pelvis, and there retain it in her grasp, until we are ready to keep up permanent pressure upon its contracted surface, by the judicious application of a binder; thus supplying in its emptied and reduced state, the support which its parietes were accustomed to receive during the latter month of utero-gestation, from the muscular and other coverings, constituting the abdominal walls. Not the least advantage, in my opinion of the binder, is the degree of comfort and security conferred upon the patient, and both of which she is soon sensible of, as evidenced by her expressions of gratitude and of increased confidence in your attention and skill. Most ladies think

more of these minor matters than is generally supposed, and will form a favourable opinion of their medical attendant or the reverse, often from the adroit, or awkward manner in which this or that little operation is performed at the bedside.

As to the duration of the third stage of labour, in practice you will find it very variable; in some cases where uterine action has been uninterruptedly vigorous during the second stage, there is no interval between the completion of the second and third stages, that is to say, the contraction which expels the lower extremities of the child, also effects the expulsion of the placenta; this desirable termination of labour, although sometimes met with, is by no means generally so, on the contrary, we are to look upon such a result as the exception of a general rule.

The question then comes to be, supposing the placenta is not expelled with the child, or immediately after, how long are we justified in waiting for its natural expulsion? Before answering this question, it may be well to review the practice followed and recommended, before the establishment of the present code of practical obstetric axioms. At one time, probably from the frightful results observed to follow the reckless and ignorant employment of artificial manipulation, it was taught, aye, even by a Hunter, that the safest line of practice to follow in these cases, was to allow nature her own way, in other words, not to interfere with the after-birth, but to leave it, until she thought proper to free herself. This doctrine, however commendable with regard to the management of the two first stages of labour, cannot be considered so here, but on the contrary, as one likely to lead its votaries into trouble and difficulties. The bad results following such practice would appear soon to have awakened the earnest attention of practical men to its danger, and by their well-founded condemnation of the practice, we find that those who in their early career advocated non-interference in the third stage of labour, were fain to confess afterwards the urgent necessity of the accoucheur terminating the delivery artificially when nature did not seem so disposed to do, after a reasonable lapse of time. After the birth of the child, provided there be not another in utero, it is always within our power to introduce our hand, and to attempt the extraction of the placenta, which, if not adherent to the walls of the uterus, but lying loose in its cavity or in the vagina, is easily effected; knowing this, and that after a short period of time, if we are unwilling to interfere early, that the difficulties and dangers of the manipulation will be very much increased by the

contraction of the os uteri and vagina, we are occasionally placed in the dilemma of either interfering too early, and perhaps unnecessarily, or else waiting until such time as artificial interference might not only be dangerous but impracticable. We know also that the placenta with its membranes, if left in utero from our neglect or procrastination, will not only subject our patient in the first instance to the risk of hemorrhage, but that she runs the additional fearful risk of sinking from the effects of inflammation or fever, generated by the irritation of this now foreign mass in a state of putrefaction.

I would now answer the question, how long after the birth of the child are you to wait for the natural expulsion of the placenta? by saying half an hour, or at most an hour, as a general rule. Exceptional cases may occur, where it is allowable to exceed the expiration of an hour; but with the well-known complications and difficulties already alluded to, as almost certain to occur after a longer or shorter lapse of time, we render ourselves responsible for all bad consequences, by deferring this simple and easy operation, beyond an hour. The uterus, generally speaking, by its own unaided contractions forces the placenta from its attachments to the fundus or sides wherever it has originally been fixed into the vagina, (at least the greater portion of the mass) the membranes, and perhaps a corner of the placenta remaining grasped by the os uteri. This usually takes place within fifteen or twenty minutes after the birth of the child, and is made known to us by the patient complaining of a griping pain, at which moment if our hand be placed over the uterus, we distinctly feel its fibres corrugating and contracting in a powerful manner, in order to separate and expel this now extraneous body. The previous firm adjustment of the binder, by affording due support, greatly assists the uterus in this effort, and if the organ be dilatory or feeble in executing this last important function of the process of parturition, friction over its surface externally, or even in some cases grasping it through the abdominal parietes, in our hand, will aid the uterine contractions materially in effecting the desired end; when the placenta has once descended into the vagina or that the insertion of the chord into its substance can be felt at the os uteri, there is no reasonable excuse for our allowing it to remain in that situation, but every objection; some suppose that by leaving it in that situation until nature thinks fit to throw it off, you thereby ensure a firm and permanent contraction of the uterus; this I deny, and at the same time maintain from my own experience and that of others, your safest and best

practice is to terminate the third stage of labour within the time already specified. In doing so there are certain precautions to be attended to which I shall endeavour now to explain to you. The extraction of the placenta from the vagina, or even from the cavity of the uterus itself (provided there be no morbid adhesion or irregular contraction to impede the operation,) can be accomplished by a practised hand with ease and celerity, and what is more important, without injuring the mother in the slightest degree; you must not expect, however, to acquire this proficiency all at once, and until you have, I would recommend the strict observance of the following rules,—1st, never to attempt extraction by pulling at the chord. 2nd, If you are in doubt as to the descent of the placenta into the vagina, pass up one or two fingers, or the hand along the chord until you can distinctly feel its insertion into the fleshy mass, and then grasping it firmly, extract cautiously, but steadily, in the axes of the cavity and outlet of the pelvis. 3rd, Twist the mass round twice or thrice in order to separate their connections, and coil the membranes into a rope, thus strengthening them and ensuring their entire removal; and, 4th, After the extraction of the placenta and membranes, re-introduce your hand into the vagina, for the purpose of removing any clots, and also satisfying yourself that the uterus has not been inverted, as sometimes happens, and is always to be guarded against. Having satisfied yourself that all is right, your next duty is to tighten the bandage, and to apply a folded napkin under the thigh of your patient; she may now be allowed to change from the side and to lie upon the back. It used to be the fashion to administer a cordial draught immediately after delivery, followed by a full opiate; both practices are to be strongly condemned. The first is uncalled for, and may do great mischief by exciting a too rapid and powerful re-action, the sure forerunner of inflammation; and the latter practice of administering opiates soon after delivery, although it may procure your patient a few hours unnatural sleep, does so at the expense of interfering with the healthy contractions of the uterus, by which this organ frees itself of any clots or debris remaining in its cavity after the expulsion of the placenta, and the constant recurrence of which prevents any accumulation of fresh coagula; besides probably giving the first active impulse to that process by which the enormously enlarged gravid uterus is to be reduced to its normal size when unimpregnated and healthy. Before leaving the house of our patient, which, even in perfectly natural and favourable labours, we should not

do for an hour after the completion of the third stage ; it is incumbent upon us to give the nurse strict injunctions as regards the management of the lying-in room until our next visit. If the patient has been confined upon a couch or temporary bed, she may now be carefully lifted by two strong females into her own bed, one supporting the shoulders, the other the hips, so that the horizontal posture is not changed.

We then give orders that the chamber be kept moderately cool, and all visitors excluded except the nurse and nearest married female relative, that absolute quietness be enforced, and all sources of irritation or excitement be avoided. The usual beverage of gruel may be given at any period after delivery, but the first allowance should not be warm, at least as cool as is palatable to the individual herself. We must also give directions as to the management of the infant ; formerly, the practice used to be to stuff the poor unfortunate creature first with brown sugar and water, then a teaspoonful of castor oil, followed by panada, bread pudding, or gruel. Such treatment, as may be readily surmised, was not pursued with impunity ; the consequences were derangements of all the chylopoietic viscera, with attendant symptoms, acidities, cholics, constipation, diarrhoea, &c., for the removal of which the infant was in too many instances subjected to another species of torture by the medical attendant administering calomel. It is almost superfluous for me to say that the gastric and intestinal derangements in these cases were entirely owing to the improper articles of food given to the new-born infant ; therefore, to remove the cause would be the first step towards curing the morbid symptoms. Rational and simple as these views may now appear to you they were long overlooked or despised by the routine practitioner, in fact he looked for these infantile complaints as necessary evils, to be met with frequently, and only to be cured by calomel and other objectionable drugs, and not as we consider them to be, morbid symptoms, excited by the overloading of the infant's stomach with food of a character totally unfit for the weak digestive power of this delicate organ. A most important and natural consideration was entirely lost sight of, viz. :—What kind of nourishment does nature provide for her offspring ; is it of a solid or fluid consistence ? Had this simple question been put, and a little reflection been bestowed upon the subject, we should never have heard of panada and gruel as substitutes for milk. What I always order for the newly born infant, until supplied from the natural source, is a little fresh cow's milk, diluted with one-third of

water, and slightly sweetened ; this approximates nearest to the secretion of the breast, and may be safely substituted for it, until the latter is fully established ; but where the mother intends and is capable of nursing, the sooner the child draws its nourishment from its legitimate source the better. Unless, however, you insist stringently upon the enforcement of these rules, you will get few nurses to obey them ; they still have an idea that the infant requires something more solid, and as soon as they get your back turned will gratify their own prejudices at whatever cost. As to medicine for the infant, in many cases where the meconium has passed freely after birth, and that there has been a sufficient secretion of milk in the mother's breasts to satisfy its cravings from the first, I believe you will seldom require to administer any ; it is in consequence of the previous artificial feeding that it becomes necessary often to administer a purgative to carry off the undigested irritant residue. I never object to a single teaspoonful of castor oil being given soon after birth, but have a well founded horror of seeing young infants purged with repeated doses of oil or calomel.

The surface of the infant's body when born is sometimes coated thickly with a tenacious greasy substance, which has obtained the name of vernix caseosum ; this cheesy matter was at one time supposed to be the product of the liquor amnii, and deposited from it upon the child's body towards the close of pregnancy ; another opinion has been entertained as to its source, which I am inclined to believe is the fact, viz. that the vernix caseosum is a secretion of the sebaceous follicles of the skin, and what adds additional weight to this view, is the fact that we find it most abundant upon those parts of the body where these follicles appear to be most active, as in the region of the axilla and groins ; it is also found along the spine, and about the neck. As to the use of this peculiar substance during intra-uterine existence, it has been supposed by some to protect the surface of the skin, but for my own part I cannot conceive what protection the skin requires at this particular period, surrounded as it is by a fluid medium, which never, to my knowledge, has been proved to possess acrid qualities, therefore we must endeavour to assign some other use for it. When we reflect upon the various resources called into play by nature, to assist and render more safe the beautiful process of parturition, is it preposterous to assert that this greasy deposit is one of those adjuvants so liberally supplied by her to facilitate the completion of her purposes, and afford protection during the attainment of that end to suffering

humanity? I would therefore hazard the opinion that the vernix caseosum is furnished as an additional resource from nature's provident stores for the better protection of the internal surface of the uterus, and perhaps the foetal body, from contusions, and also from its slippery character to facilitate the passage of the child through the dilated but contractile soft structures of the mother subsequent to the escape of the liquor amnii.

Whatever be the use of the vernix caseosum, during the processes of gestation and parturition, it can no longer be considered in this light; therefore, so soon as the child has been separated from its mother, the nurse's duty is to wash the surface of its body, &c., free from such adhesive matter. Many recipes have been recommended for effectually removing this tenacious covering, which were most objectionable, on account of their containing stimulants, applications calculated to prove highly injurious when briskly rubbed as directed, over the tender skin of a newly born babe. The application of a little sweet oil, smeared over the now extraneous product with the point of the finger, or a feather, will render the subsequent removal of it, by means of a soft sponge and tepid water, easy of accomplishment in most instances; however, if patches still adhere tenaciously, after the above means have been had recourse to, for a reasonable time, it is better to leave them so until the next dressing of the infant, when, if not adherent to the bandages or inner clothes, they can be then removed by the sponge and water.

With regard to the subsequent management of your patient during the puerperal state, it is your duty, in the first place, to see her again within twelve, or at most twenty-four, hours after delivery.

When on examination you find the pulse natural, tongue clean, absence of headache, and on inquiry are informed that she enjoyed several hours' tranquil sleep, and that a moderate sanguineous discharge (the lochia) flows from the vagina—when, in addition to this information you are also informed that she passed water freely, and satisfy yourself of this fact, as well as gain the important information that no abdominal tenderness exists, by passing your hand over its surface, at the same time employing slight pressure—you may consider her condition as most favourable, and one offering every prospect of a speedy convalescence.

However, in place of being informed that your patient has slept well, you will occasionally be told the unpleasant news, that she never closed her eyes since delivery, having been tormented with harassing pains in the abdomen, which occurred at intervals, like



labour pains : these are commonly known by the significant term, "after-pains ;" the causes, prevention, and treatment of which deserve our earnest consideration, from it being an admitted fact that these pains, if allowed to continue many hours unrelieved, may, in certain constitutions, run into, or lay the foundation for, inflammation. Let us first point out to you clearly the causes of after-pains, and I think I shall have no difficulty in persuading you as to the possibility of preventing them, or if unfortunately these means have been neglected, at least mitigating their severity, and thus lessening the risk of subsequent bad consequences. The exciting causes are undoubtedly clots of blood, portions of placenta, or membranes left in the cavity of the uterus, or else tumours in its walls ; these keep up constant irritation, and thus produce contractile efforts on the part of the muscular fibres, which are perpetuated as long as the source of irritation exists, or until wearied out by long-continued abortive efforts. I had demonstrative proof afforded me, during a recent visit to Paris, in the lying-in wards of the Clinique des Accouchemens, of the first fertile source of this troublesome affection. During the morning visit of M. Cazenave, then doing duty for M. Paul Dubois, several patients recently delivered complained of passing quantities of clotted blood, accompanied with excruciating after-pains : these symptoms, the Professor observed, were commonly met with after natural labour amongst the lying-in women there, a circumstance which at first I felt at a loss to account for, untill recalling to my mind the fact of the French accoucheurs not employing a binder after natural labour, I was forcibly impressed with the idea, that the unusual accumulation of clots, and consequent contractile efforts of the uterine fibres to expel them, constituting the after-pains in these cases, arose in the first instance from the neglect of the attendants in not securing a firm and permanent contraction of the uterus ; and, secondly, owing to the want of due support afforded to the contracted viscus by the application of a well-adjusted bandage. The neglect of these simple precautions in this kingdom led at one time to similar results, so much so, that until the present rules of practice, with regard to the management of the third stage of labour, came to be generally adopted, after-pains used to be considered the natural attendants upon delivery, and were looked forward to by many patients with a greater degree of dread than even the pains of labour itself.

*( To be continued. )*

RESULTS OF PRIVATE PRACTICE IN OBSTETRICY,  
FROM JANUARY 1<sup>ST</sup>, 1833, TO OCTOBER 1<sup>ST</sup>, 1848,  
A PERIOD OF FIFTEEN YEARS AND NINE MONTHS.  
BY F. ELKINGTON, ESQ., SURGEON, NEWHALL STREET, BIR-  
MINGHAM.

It is of considerable importance to know if any distinctive difference exists between the results of private and hospital practice, and in what particulars these differences consist. Dr. Joseph Clarke has left behind him an admirable record of his own usefulness, illustrative of this point of inquiry, which has just been given to the world by Dr. Robert Collins of Dublin, and which was noticed at some length in the British Record, of April 15th, 1849. The following summary, in many respects, confirm the views of Dr. Joseph Clarke, and it is hoped will be of utility when combined with others, so as to increase the numbers as a whole, for, on large numbers only the true value of statistical inquiries must rest.

The total number of cases attended privately from January 1st, 1833, to October 1st, 1848, amount to 2437. Of these 2437, the deaths were 16, or 1 in 152 $\frac{1}{2}$ . The 16 deaths are thus accounted for :

- 7 From Contagious Puerperal Fever.
- 1 Apoplexy at the seventh month.
- 1 Convulsions, two days after delivery.
- 1 Pneumonia and acute rheumatism, premature.
- 1 Erysipelas of the leg, a few days after delivery.
- 1 Rupture of the Uterus.
- 1 Peritonitis.
- 1 After turning for Placenta Prævia, tenth day after delivery.
- 1 Phlebetis on the fourteenth day after secondary hemorrhage.
- 1 Pelvic Abscess, delivered by forceps, died six weeks after delivery.

In comparison with Dr. Clarke's results, the above results stand thus :—

Total deaths . .	1 in 153 $\frac{1}{2}$ ,	Clarke 1 in 175.
Peritonitis . .	1 in 2437,	ditto 1 in 1282.
Puerperal Fever	1 in 348,	not stated.
Convulsion . .	1 in 2437,	Clarke, not fatal, 1 in 1923 $\frac{1}{2}$ .

Two of the 16 deaths were premature; one of these two from apoplexy, the other pneumonia with acute rheumatism.

Of the 2437 cases 15 were delivered with short forceps, or 1 in 162½; one of the 15 died as in the table of deaths, of pelvic abscess, six weeks after. Ten of the 15 were primiparæ. One of the 15 had convulsions. Three of the 15 had previously been delivered by the forceps, and one previously with the crotchet.

Of the 2437, six were delivered with the crotchet. Four of the six were consultation cases. Of the remaining two one was a first labour, forty years of age, and has since been delivered by the short forceps. The second was a breech case, but the head could not be brought down after the shoulders were born. This patient was delivered of her first child by the crotchet, but has had two living children since.

Thus, Instrumental deliveries stand—Forceps 1 in 162½.

Crotchet 1 in 406.

Together 1 in 116.

Dr. Clarke's Instrumental cases of all sorts 1 in 298. But the forceps were only used once.

The particulars above stated are not by any means so full as stated in Dr. Clarke's results; but as far as the information goes is of considerable importance; and when other practitioners have added their results, the value of such information cannot be disputed. One thing is conclusive, that there is a considerable difference between hospital and private practice. Thus, whenever statistics are brought to bear on this department of practice, it will be necessary to distinguish the sort of practice from which the information has been obtained.

## DEATH OF PRINCESS CHARLOTTE.

The following interesting letter is taken from the correspondence of Dr. Joseph Clarke of Dublin, in the work on the results of his private Obstetric Practice.

“London, November 15, 1817.

“MY DEAR SIR.—I do not wonder at your wishing to have a correct statement of the labour of Her Royal Highness, Princess Charlotte, the fatal issue of which has involved the whole nation in distress. You must excuse my being very concise, as I have been, and am very much hurried. I take the opportunity of writing this in a lying-in chamber. Her Royal Highness's labour commenced

by the discharge of the liquor amnii about seven o'clock on Monday evening, and pains followed soon after; they continued through the night and a great part of the next day, sharp, short, but very ineffectual. Towards the evening Sir Richard Croft began to suspect that the labour might not terminate without artificial assistance, and a message was dispatched for me. I arrived at two on Wednesday morning. The labour was now advancing more favourably, and both Dr. Baillie and myself concurred in the opinion that it would not be advisable to inform Her Royal Highness of my arrival. From this time to the end of the labour, the progress was uniform, though very slow, the patient in good spirits, pulse calm, and there never was room to entertain a question about the use of instruments. About six in the afternoon, the discharges became of a green colour, which led to a suspicion that the child might be dead; still the giving assistance was quite out of the question, as the pains now became more effectual, and the labour proceeded regularly though slowly. The child was born, without artificial assistance at nine o'clock in the evening. Attempts were for a good while made to reanimate it by inflating the lungs, friction, hot bath, &c., but without effect: the heart could not be made to beat even once. Soon after the delivery Sir Richard Croft discovered that the uterus was contracted in the middle, in the hour-glass form, and as some hemorrhage commenced, it was agreed that the placenta should be brought away by introducing the hand. This was done about half an hour after the delivery of the child, with more ease and less loss of blood than usual. Her Royal Highness continued well for about two hours; she then complained of being sick at stomach, and of noise in her ears; began to be talkative, and her pulse became frequent, but I understand she was very quiet after this, and her pulse calm. About half-past twelve o'clock she complained of severe pain at her chest, became extremely restless, with a rapid, irregular, and weak pulse. At this time I saw her for the first time, and saw immediately that she must die. It has been said we were all gone to bed, but that is not a fact. Croft did not leave the room, Dr. Baillie retired about eleven, and I went to my bed-chamber and laid down in my clothes at twelve. By dissection, some bloody fluid (two ounces) was found in the pericardium, supposed to be thrown out in articulo mortis. The brain and other organs all sound, except the right ovary, which was distended into a cyst the size of a hen's egg; the hour-glass contraction of the uterus still visible; a considerable quantity of blood in the cavity

of the uterus, but those present dispute about the quantity, so much as from twelve ounces to a pound and a half: the uterus extending as high as the navel. The cause of Her Royal Highness's death is certainly somewhat obscure; the symptoms were such as attend death from hemorrhage, but the loss of blood did not appear to be sufficient to account for a fatal issue. It is possible that the effusion into the pericardium took place earlier than what was supposed, and it does not seem to me to be quite certain that this might not be the cause. As far as I can judge, the labour could not have been better managed. That I did not see her Royal Highness more early was awkward; and it would have been better that I should have been introduced before the labour was expected; and it should have been understood that when the labour came on I should be sent to without waiting to know whether a consultation was necessary or not. I thought so at the time, but I could not propose such an arrangement to Croft. But this is entirely *entre nous*. I am glad to hear that your son is well, and, with all my family, wish to be remembered to him; we were happy to hear that he was agreeably married.—I remain, my dear Doctor, ever yours most truly,

JOHN SIMS, M.D.

P.S.—This letter is confidential, as, perhaps, I might be blamed for writing any particulars without the permission of Prince Leopold.

*We think with the uterus as high as the navel and the variable statements as to the amount of blood, the cause of death was apparent enough. At the present day it would be styled bad practice.*]—Ed.

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#### ABNORMAL BIRTHS.

Dr. MARTIN of Philadelphia, gives a curious instance in the Philadelphia Medical Examiner, of a female who had five births in succession, in which the fœtuses were defective, the character of the malformation being the same in all the cases. The description of the first will answer generally for the rest. The eyes placed at the top of the forehead. Superior and posterior parts of the head wanting, and the corresponding bones of the cranium. The opening fringed round with a structure very similar to the liver; four of the five were still-born. One born alive and was convulsed, but died directly.

A COURSE OF LECTURES ON PRACTICAL OBSTETRICY.—BY ALEXANDER TYLER, M. D., LECTURER ON MIDWIFERY, ETC., DUBLIN.

*(Continued from page 108.)*

This led to the abuse of opiates given for the purpose of procuring the patient temporary relief by inducing sleep ; but when given soon after delivery, if in full dose, interfering materially with the healthy contractions, thus increasing the exciting cause of the evil so much desired to be removed, and in reality perpetuating what they were intended to cure. Such practice was not only unphilosophical, but proved in the end highly injurious. You will now be sensible of the advantage of securing a permanent contraction of the uterine parietes after delivery, as the most effectual preventive of after-pains. When the morbid uterine contractions depend upon the irritation caused by a portion of retained placenta or membranes, the offending object should of course be removed, if possible, and if not to be reached without injuring the soft structures, then its natural expulsion should be favoured in every possible way by friction over the uterus, followed by injections of tepid water into the cavity of the uterus. A stimulating enema, or purgative draught, containing one or two drachms of spirits of turpentine, will often have a beneficial effect in these cases, particularly if the patient be desired to sit up during the action of the medicine, the erect posture then favouring the descent of any foreign matters from the internal passages. When morbid contractions are caused by the irritation of organic tumours within the uterine walls, little can be done even to relieve them ; but after the patient has recovered from the puerperal state, these tumours, polypous, fibrous, or of whatever character they may be, should be treated according to approved principles, and a recurrence of the attack thereby often prevented on a future occasion. After-pains would appear sometimes to occur in patients of a gouty or rheumatic diathesis, and to take on the characters more or less of these intractable diseases ; this form must be considered the most obstinate, and that least amenable to our ordinary remedies. We shall enter more fully upon the description of nervous or rheumatic after-pains, when pointing out to you the diagnostic marks between it and metritis, in a future part of the course.

## LECTURE IV.

**DIFFICULT LABOUR.** — Labour may be rendered difficult from a great variety of causes, therefore we usually describe this class by detailing, seriatim, the various causes of protraction beyond the natural period—twenty-four hours—and at the same time recommending the line of treatment best suited to meet each particular exigency; and, if possible, curtail the severity and duration of this dreaded process within bounds. Difficult labours may therefore be divided into two orders, according to the means required for the accomplishment of nature's aim, viz.,—lingering and instrumental. Under the first head we will consider the numerous causes of delay, which, however, when met by timely treatment, usually give way, and allow the uterine efforts to effect delivery unassisted by art. Under the second head we shall include all cases of head presentation requiring the use of instruments, where ergot of rye was either inadmissible, owing to extreme disproportion between the child and pelvis of the mother, or having been administered, has failed in effecting delivery. The close approximation of lingering labour to the protracted natural process, will be apparent to all, and the difficulty of defining what should no longer be considered lingering, but at once be classed under the order instrumental, must be confessed to be a task requiring no ordinary amount of experience, discrimination, and sound judgment, on the part of the well-educated accoucheur. It is in the management of such cases, that the ignorant empiric displays his true character, to the detriment of mankind, and the disgrace of that noble art of which he professes to be a master.

We shall first treat of those impediments offered to the passage of the child, by unusual resistance on the part of the soft tissues to that degree of dilatation necessary for the birth of the infant, and compatible with their integrity. The most common form of opposition met with from this cause is simple rigidity; this may exist in one out of three points, or the whole canal of exit, os uteri, vagina, and os externum, may at the same time be rigid, a cause of difficulty requiring not only skill and experience to combat successfully, but also untiring patience and confidence in the unlimited resources of nature. Rigidity of the os uteri will primarily engage your attention as being the first obstacle in the way of delivery. It may be caused by injudicious interference of the practitioner, or may depend upon accidents in no way attributable to him; but the

effects of which result in this difficulty. Premature rupture of the membranes, either effected artificially or occurring accidentally, is to be looked upon as by far the most frequent cause of rigidity of the os uteri, and one unfortunately irremediable, unless the ingenious suggestion (of a late writer) to supply the place of the ruptured bag of membranes by means of a bladder filled with water be found practicable, a result, for many reasons, most desirable, but the successful accomplishment of which, I fear, is beset with too many difficulties ever to be generally applicable.

This unfavourable state of the os uteri may be discovered to exist at the very commencement of its dilatation, or may not occur until the process of dilatation has somewhat advanced; in the former case it is the result of the premature rupture of the membranes, in the latter most probably owing to a spasmodic contraction of the cervical fibres, produced by the irritation of unnecessary and too frequent vaginal examinations, or the effect of pressure on the cervix, between the child's head and bony pelvis. In either case we must be guarded in giving a hasty prognosis, as to the duration or probable result of the process, for sometimes, most unexpectedly, the unyielding margin of what we a few minutes before considered an undilatable os uteri, will suddenly give way after the patient vomiting, before we have had time to put in practice the usual methods of treatment had recourse to, in order to overcome this primary obstacle; and again we meet with cases of rigidity which resist for many hours the most active treatment, and that best calculated to induce the necessary degree of relaxation. It would be a matter of great importance did we possess the means of distinguishing accurately between these two states, the one amenable to the resources of nature unaided, and the other requiring most energetic and persevering efforts on the part of the practitioner to overcome. The experienced practitioner will in many cases form a correct opinion by the impressions conveyed to his educated finger of the probable result; but even the most experienced will occasionally be deceived on this head, and I fear we cannot be said to possess unerring data upon which to found a decisive opinion in all cases. I may now describe to you the conditions of the uterine orifice which generally require a considerable space of time and active treatment to overcome. First, at the very onset of labour, the membranes having previously ruptured, you may encounter an os uteri not sufficiently wide to admit the point of the finger, and resisting any effort on your part to do so; again, it may dilate so far as to allow the point to enter,



when you feel it grasped as if by a coil of whipcord, or like the margin of a round aperture, punched through a piece of parchment. This condition I have seen yield to the impression produced upon the system by the operation of a brisk purgative, or after the administration of an emollient enema; but where this practice was unsuccessful, it has been necessary to bleed largely from the arm, followed by an opiate where much restlessness prevailed, and in certain cases the administration of minute doses of Tartrate of Antimony will be attended with good results, when your patient's constitution is sufficiently vigorous to resist the subsequent prostrating effects of this powerful drug; however, I feel it to be my duty to warn you against the administration of this poisonous medicine; when your patient is debilitated from protraction of the first stage, accompanied with mental anxiety, particularly if she be of a leucophlegmatic habit of body, (for even in such constitutions, rigidity of the os uteri may occur,) as I have witnessed the worst effects produced by its constitutional action here, in fact, inducing a state of collapse out of which the vital powers had never an opportunity of rallying.

The second unfavourable condition of the os uteri is met with at a later period of labour, and presents a condition differing considerably from that just described. The os uteri may now be a half or two-thirds dilated, and in place of its margin feeling thin, tight, and constricted, your finger encounters a tough, cartilaginous rim, feeling more like gristle than elastic or muscular tissue: this border sometimes presents a well-defined round edge, as in the first condition; but more frequently at this stage you will find the lips of the os tunicæ unequally dilated, or as it is technically termed, developed; that remaining longest unobliterated is usually the anterior lip, which can be felt wedged between the child's head and symphysis pubis. This thickened cartilaginous state of the os is often accompanied with inflammation, and still more frequently attended with engorgement or congestion of the cervix. To remove which morbid conditions local depletion by means of leeches, applied directly to the cervix, by means of a speculum, has been recommended as the most effectual mode of treatment. I have never tried the practice, therefore cannot speak from experience as to its results, but this I can honestly state, that I have never yet met with a case of rigid os uteri which resisted eventually the treatment formerly recommended for the first form of rigidity, viz. general bleeding, enemata, purgatives, and tartar emetic.

*(To be continued.)*

THE BRITISH RECORD  
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A COURSE OF LECTURES ON PRACTICAL OBSTETRICRY.—BY ALEX. TYLER, M.D., LECTURER ON MIDWIFERY, ETC., DUBLIN.

LECTURE I.

*Introductory to the Course—History of Anæsthesia—Its Application to Midwifery.*

GENTLEMEN,

Of all the discoveries of modern science I believe none was ever introduced to the profession and public with the same confidence and amount of eulogy on the one hand, and on the other had to withstand more stern opposition from prudent and sceptic men, than the application of anæsthetic agents for the purpose of annulling the pains of labour. We shall endeavour hereafter to account for this great discrepancy of opinion as to the virtues of these powerful agents in the practice of obstetrics, since we know that in the kindred branch of surgery their use has now become almost general.

Shortly before the application of ether was mooted as an assuager of pain, a last desperate but dying effort of the Mesmerists was made to bring mesmerism into fashion. Books were published on its powers, and innumerable cases detailed where it was said painful operations had been performed during the mesmeric sleep without suffering on the part of the patient. We know that men of undoubted talents advocated the practice of mesmerism, and not only lent their energies, but, in some instances, sacrificed their private interests for the sake of propagating what the majority of the profession looked upon as a delusion, or, as some might express it, *arrant humbug*.

No. 1, Vol. II.]

[JAN. 1, 1849.]

Unfortunately for the disciples of Mesmer, a new and more effectual means of overpowering the senses stepped forward to claim the palm; whether it was that people were getting tired of mesmerism, or that the inherent disposition of a portion of our race predominated, which no doubt mesmerists will assert, I will not attempt to decide, but certain it is, that three months after the advent of sulphuric ether in these countries, mesmerism was no more; its former worshippers submitted to their untimely fate, but with their dying breath reiterated a common belief, that only for the growing popularity of mesmerism, we should never have heard of the application of sulphuric ether for the same merciful ends.

Never was a victory more triumphant, or a defeat more complete, than the rise of anæsthesia and the fall of mesmerism.

Sulphuric ether had but fairly established itself, when our weak minds were once more suddenly astounded by the announcement of another more potent anæsthetic agent, Chloroform, which you are all aware was first introduced to the notice of the profession by Dr. Simpson, Professor of Midwifery in the University of Edinburgh, as a substitute for sulphuric ether, last November, not a twelve-month after the installation of ether.

Rapid as was the success of ether, the onward course of chloroform is unparalleled. The profession were now prepared to swallow or inhale anything; every barrier to anæsthesia was laid prostrate. This all-powerful agent in less than six months had completely routed its volatile antagonist, and (with the exception of a few eccentric stragglers who still administer the ether) may now be declared master of the field of anæsthesia.

Let us now trace the progress of these agents in our own particular department, and endeavour to assign to anæsthesia its true obstetric position.

Ether was first used by Dr. Simpson in a case of deformed pelvis, where he had predetermined to turn the child, on the 19th of January, 1847. This, I believe, is the first recorded instance of the practice of anæsthesia in midwifery; and to Dr. Simpson is due the credit of braving the prejudices, it would appear, of the mass of midwifery practitioners, who all, to a man, cried, *it won't do* at all events in midwifery practice, where there is so much danger of convulsions occurring, which tendency, all argued, must be increased tenfold by the exhibition of stimuli in any form; and again, was it said, if it is powerful enough to avert pain, it will also arrest uterine action.

Dr. Simpson was not insensible of the weight of these objections urged by the profession at large; but he determined, in his usual enterprising spirit, to ascertain whether, in practice, any real foundation existed for them, or that rather they might be merely contracted views of the imagination coloured by the fears of dogmatic minds. At all events his mind was dubious as to the effects of ether upon the uterine contraction, as he thus expresses himself when speaking of his first case.

"During a week or two previously I had anxiously waited for the supervention of labour in this patient, for by the result I expected that much would be decided in regard to the effect of ether inhalation in parturition. Would it merely avert and abrogate the sufferings of the mother, without interfering with the uterine contractions? or would it arrest simultaneously both the contractions of the uterus and the sufferings that arise from them? As far as the proposed mode of delivery by turning was concerned it was a matter of no vital importance whether the etherization stopped the uterine contractions or not. And on this circumstance depended the eligibility of the case for a first trial of ether inhalation." The result proved to him, "that though the physical sufferings of the parturient patient could be annulled by the employment of ether inhalation, yet the muscular contractions of the uterus were not necessarily interfered with, or, in other words, that the labour might go on its course although the sensations of pain usually attendant upon it were, for the time being, altogether abrogated." The various inferences deduced by him from the satisfactory result of this case, and of several other natural labours, and one forceps case, were communicated to the Obstetric Society upon the 10th of February, three weeks after the occurrence of his first case, and are given in the following terms:—

1. That the inhalation of ether procured for the patient a more or less perfect immunity from the conscious pain and suffering attendant upon labour.
2. That it did not, however, diminish the strength or regularity of the contractions of the uterus.
3. That, on the other hand, it apparently (more especially when combined with ergot) sometimes increased them in severity and number.
4. That the contraction of the uterus, after delivery, seemed perfect and healthy when it was administered.
5. That the reflex assistant contractions of the abdominal mus-

cies, &c., were apparently more easily thrown into action by artificial irritation and pressure on the vagina, &c., when the patient was in an etherized state.

6. That its employment might not only save the mother from mere pain in the last stage of labour, but might probably save her also, in some degree, from the occurrence and consequences of the nervous shock attendant upon delivery, and thereby reduce the danger and fatality of childbed; and

7. Its exhibition did not seem to be injurious to the child. In a subsequent communication written for the *Monthly Journal of Medical Science*, on the 18th of February, 1847, entitled, Notes on the Inhalation of Sulphuric Ether in the Practice of Midwifery, Dr. Simpson, after painting to us, in the most vivid colours, the agony suffered by parturient women during the last stages of labour, appeals to our humanity by stating that he had then seen no small amount of maternal suffering and agony saved by its application, which, by modifying and obliterating the nervous shock otherwise liable to be produced by such pain, particularly whenever it is extreme and intensely waited for and endured, must save the constitution from many evil consequences that are too apt to follow in its train. He stated in that paper, the question had been often asked him, will we ever be "justified" in using the vapour of ether to assuage the pains of natural labour? and gave it as his belief that the question would require to be quite changed in its character. "For instead of determining in relation to it whether we shall be 'justified' in using this agent under the circumstances named, it will become, on the other hand, necessary to determine whether, on any grounds, moral or medical, a medical man could deem himself 'justified' in withholding, and not using, any such safe means (as we at present presuppose this to be), provided he had the power, by it, of assuaging the pangs and anguish of the last stage of natural labour." At this date Dr. Simpson had never ventured to keep a parturient patient in the anæsthetic state longer than half an hour; a few weeks' farther experience, however, proved to him that this state might be kept up during labour, safely, for three or more hours; and at a subsequent meeting of the Obstetric Society he laid before the members the following additional deductions:—

1. The state of etherization had little or no influence upon the fœtus, none, at least, of a deleterious kind,—the fœtal heart increasing only a few beats, if at all, when the mother was kept long and fully etherized, either during pregnancy or labour.

2. The mother, during labour, may be kept etherized, if required, for one, two, three, or more hours. Dr. Simpson described two cases, in one of which the mother was about six, and in the other about four hours etherized before the children were born. In both cases the duration of the intervals and of the pains before and during etherization was noted (as in the experiments which Dr. Simpson had published on galvanism), and the etherization seemed to have no effect either on their frequency or strength. But,

3. In two or three cases Dr. Simpson had seen a very deep state of etherization modify apparently the full strength of uterine contractions, but they recurred immediately in full force when the patient was allowed to fall back into a state of slighter etherization.

4. Dr. Simpson had hitherto seen no traceable injury to either mother or child from its employment, but the reverse.

5. The inhaler he used was either a concave sponge, saturated interiorly with ether and held over the face, or a simple portable flask without valves. Ether was employed by Mr. Skey, of Bartholomew's Hospital, London, on the 25th of January, before performing the Cæsarian operation, in a case of extreme deformity of the pelvis; this woman subsequently died, but her demise could in no way be attributed to the exhibition of ether; the incision of the skin was not felt by this woman, and she survived the operation several days. Dr. Murphy soon after used it in a case of turning; and other London practitioners published cases in which they had employed ether during the spring of 1847, but its adoption in midwifery cases at that time throughout the island was anything but general.

A week after Dr. Simpson's first case in Edinburgh it would appear that Dr. Fournier Deschamps etherized a patient before delivering with the forceps, and extracted the child whilst the mother was in a complete state of insensibility. Sometime previously, at the period of ether being first applied in France, to the purpose of preventing pain attendant upon surgical operations, Prof. Velpeau had expressed his opinion at the Institute, that midwifery would, according to all probability, find in ether a very useful agent, but, with the exception of Deschamps's case, no Frenchman had the courage to give it a trial, until Paul Dubois, in the beginning of February of the same year, commenced a series of experiments at the Maternité and Clinique des accouchemens upon the effects of the inhalation of ether during labour. The fruits of these obser-

vations he laid before the Academy in the form of a communication on the 23rd of February, with the details of five cases where he had administered it, from which he ventured to draw the following conclusions :—

1. That the inhalation of ether has the power of preventing pain during obstetric operations.

2. That it may also momentarily suspend the natural pains of labour.

3. That the state of ebriety induced by the inhalation of ether does not suspend uterine contraction when the latter is decidedly set in and takes place at short intervals, and that it does not impede the synergetic action of the abdominal muscles.

4. That the state of ebriety appears to lessen the natural resistance which the perinæal muscles oppose to the expulsion of the head.

5. That the inhalation of ether has not appeared to exert any bad influence over the life or health of the child. Whilst alluding to the apprehended occurrence of convulsions during etherisation, Dubois observed, "we shall find that pregnancy itself, but too commonly indeed, predisposes women to that sort of nervous excitement which is sometimes carried so far as to be fatal to them ; therefore, we must agree that ether, during the pregnant state, cannot be exhibited with too great circumspection."

This caution was certainly called for against the indiscriminate use of ether, from the fact of the following startling phenomena being witnessed by him, during the administration of ether in his third case, a primipara, at the Maternity, on the 5th of February, viz., "determination of blood to the head, the face became intensely red, the looks were set, the eyes fixed upwards and outwards ; the conjunctiva was congested to that degree that I really could imagine blood on the point of springing from its surface. The under lip was hanging, the tongue turgid, and squamous saliva issued forth from the mouth." This state lasted for three minutes.

Paul Dubois subsequently expresses his opinion that the very nature of things will very seldom call for the exhibition of ether in cases of midwifery.

In other parts of France, and in Germany, ether was administered during the spring of 1847, and many cases of natural and instrumental labours detailed where it was employed with success. In America, the country where the use of sulphuric ether before surgical operations first originated, we do not find it was used in

midwifery, until the news of its successful application in Europe had reached the shores of the western world.

My friend Dr. Simpson, I see, gives me the credit of being the first in Ireland to apply anæsthesia in an obstetric case. This was an instrumental labour in Kevin-street. It occurred in last November, and was witnessed by several of the pupils of the Anglesey school.

Soon after this a new impulse was given to the practice of anæsthesia in midwifery, by the introduction of a still more powerful and manageable agent, chloroform. Great as were the encomiums passed on ether at its first debut, they were completely thrown into the shade by the unbounded praise lavished upon its more fortunate adversary. The medical journals and newspapers were filled with reports of its victories, and nothing was more talked of amongst the profession, and in fashionable circles, during the whole of last winter, than the wonderful powers of chloroform. As unprecedented success is generally followed by opposition proportionate to the value of the object aimed at, so we find with regard to chloroform, that obstacles of every description, and arguments of the most subtle nature, were immediately brought to bear, and, if possible, arrest the onward even course of chloroform. Fortunate was it for the cause of anæsthesia, that it possessed on its side such an unflinching and able champion as Dr. Simpson, else I fear it would, ere this, have shared the fate of many a promising discovery—unmerited oblivion.

Chloroform was discovered by Sobelran, (1831,) and by Liebig, (1832,) shortly after. Dumas and Peligot, in 1835, described it as a clear fluid, consisting of two atoms of carbon, one of hydrogen, and three of chlorine; or, as some would express it, of one atom of formyle, and three of chlorine.

It had been used internally diluted with water, as a diffusible stimulant; but we have no recorded instance of the inhalation of chloroform, until so administered by Dr. Simpson in November, 1847.

The advantages claimed for chloroform, over sulphuric ether, as an anæsthetic agent in surgical and obstetric practice, are,

1. A greatly less quantity of chloroform is required.
2. Its action is much more rapid, more perfect, and generally more persistent.
3. Its exciting or exhilarating stage is far shorter, insensibility commonly supervening in a minute or two, or less; hence



4. The time of the surgeon is saved ;
5. The inhalation and influence of it are more agreeable and pleasant.
6. Its odour is evanescent ; and
7. No special instrument is required for its employment.

Mode of administration.—A drachm of the fluid is poured upon a small piece of sponge, or into the hollow of a cambric handkerchief, folded with a concavity, and held before the mouth of the patient.

The first case of labour in which Chloroform was employed by Dr. Simpson occurred upon the 8th of November. The lady had been previously delivered in the country by craniotomy, after a very long labour. Her second confinement took place a fortnight before the full time. Chloroform was begun to be inhaled when the os uteri was becoming well expanded, and the pains very severe. In twenty-five minutes the child was born. The mother did not awake till after the placenta was removed ; and was perfectly unaware that her child was born, and alive. She stated her sensations to be those of awaking from "a very comfortable sleep."

The result of this and subsequent cases satisfied Dr. Simpson of the general applicability of chloroform for the purpose of annulling the pains of labour ; and experience taught him that it does not require to be given in such large doses as in surgery. After the first full dose, he directs a few inhalations as sufficient to be given before each returning uterine contraction ; these to be increased as the head is passing the perineum and vulva : he likewise truly observes, "If the state is extremely and unnecessarily deep, it will no doubt diminish, and even temporarily stop, uterine contractions." This deeper state he took advantage of in facilitating the operation of turning. It is only due to the talented Professor now to mention, that he warned us early against the rash and indiscriminate use of chloroform, which he pronounced to be far too powerful an agent to be entrusted to nurses or unprofessional individuals, and prophesied that the power which we have with it, of bringing down the pulse, &c., shows that, if exhibited in too strong a dose, given uninterruptedly for too great a length of time, it would doubtless produce serious consequences, and even death. This caution was not uncalled for, as not many weeks after a young female died at Wintaton, Newcastle, whilst under the effects of chloroform, and the coroner's jury returned a verdict accordingly.

*(To be continued.)*

A SERIES OF PAPERS ON CHLOROSIS.—By RAY CHARLES  
GOLDING, M.D., London.

CHAPTER I.—*Nature and Causes of the Chlorotic State.*—Chemical analysis and microscopic examination of the blood in those morbid conditions of the system to which the term chlorosis is applied, (denominated Anæmia or Hypæmia in males) satisfactorily prove that the proximate causes of most of the phenomena occurring therein, are referable immediately to that source. The term chlorosis\* might with propriety be employed as a generic designation to such maladies as are dependant on a diminution in the relative proportion, together with mal-development of the red globules of the blood; since the yellowish green tinge of the skin, always more or less evident, is a constant effect of such a condition of the blood, and is only seen when such exists. Until a more correct knowledge is acquired of the ultimate changes attending the development of the red globules, with the causes in operation retarding or augmenting the energy of that process, the ætiology of many cases constantly presenting themselves will be inexplicable. To such instances the term idiopathic may be given, since they arise from causes not readily appreciable, being the result of slow changes in the development of the red globules, and are the immediate cause of the phenomena exhibited; no morbid changes existing in any special organ to account for their production. In other cases, the causes of such changes in the globules, with the phenomena resulting therefrom, are more appreciable, being traceable to special lesions, during the march of which the red globules become deteriorated; for such instances I propose the term symptomatic chlorosis.

The chief causes of the two varieties of chlorosis just mentioned are the following.

1. *Of Idiopathic Chlorosis.* As a predisposition, the most frequent and obvious is that seen in several members of the same family, and in persons placed under similar unfavourable circumstances for healthy assimilation. In such instances, females are

\* χλωρος: Pale green, light green, greenish yellow: strictly, of the colour of young grass, corn, &c.; sometimes the colour of honey, of the box, or of the laurel.

affected in a greater ratio than males; the more emasculate the latter are, the greater is found the probability of their becoming chlorotic. When such disposition exists, it is easily imagined how the ordinary exciting causes of disease constantly in action (as in the unhealthy districts of large towns, and from the habits incurred therein), will induce chlorosis more readily, and in greater intensity than, *cæteris paribus*, in those more favourably circumstanced; many cases, however, are constantly occurring, which shew that such are accessories, not essentials, and which in the present state of our knowledge are inexplicable on any circumstances of purely outward origin.

2. *Of Symptomatic Chlorosis.* These may be referred to three heads:

- α To the strumous diathesis, as a frequent, though not as a necessary, predisponent.
- β To causes deranging assimilation generally; as deprivation of natural vital stimuli, especially light; diseases of chylipoietic viscera, and of the nervous system; exhausting discharges, as hyper-lactation, menorrhagia, hæmorrhoidal and other discharges from the rectum; leucorrhœa; frequent abortions; malignant diseases generally; and all exhausting maladies.
- γ To causes immediately affecting the blood, especially hemorrhages, and contamination of it by the retention in it of matters destined for excretion, or by the introduction into it of malarious and septic poisons.

CHAPTER II.—*Symptoms.*—The essence of chlorosis being a diminution in the relative quantity, as well as in a defect in the perfection of the red globules of the blood, the symptoms vary with the degree and persistence of this defect, and with the varied lesions which accompany or result from such defect. Under any circumstances there are special symptoms which depend *in toto* on such a state of the blood; others which depend on accessory causes not always present. To detail these with as much succinctness as possible, the phenomena of ordinary idiopathic chlorosis will be chiefly kept in view, in the following summary of the symptoms.

1. It is not necessary, in order to constitute chlorosis, that a lessening or defect of the other constituents of the blood should co-exist with the deterioration of the red globules, as the symptoms are mainly due to the latter cause, and explicable by it.

The want of a due stimulation by the red discs causes atony,

more than a want of nutrition of the textures. Assimilation is not materially impaired in chlorosis whilst the relative proportion and due elaboration of the fibrine, albumen, fatty matters, and salts of the blood, remain normal: it is only when this morbid condition of the globules has lasted some time, and the same defect of their elaboration still continuing, that the vital powers succumb; the blood becoming in consequence further impoverished, other phenomena are induced, the immediate result of such superinduced *cachæmia*.

The practical application of these remarks is evidenced in the careful study of the varied forms of chlorosis, and renders necessary a division of that malady (as proposed by Andral) into incipient and confirmed: the globules in the former being alone affected; the other solids of the blood also, in the latter variety.\* Of the three uses prescribed by physiologists to the red globules—stimulants to the textures, carriers of oxygen, and elaborators of the *liquor sanguinis*—the first is the best exemplified in chlorosis, where the most prominent symptoms are immediately due to atony of the textures, in consequence of the want of due stimulation by the blood.

The chemical changes in the globules are, a deficiency of hæmatosine and of iron entering normally into their composition.

The physical changes, as evidenced by the microscope, consist in a diminution of colour, and often irregularity of contour; the former is due to defect in the amount of hæmatosine secreted, the latter to a diminution of endosmotic power in the globules themselves. The absolute quantity of globules has been found by Andral to be diminished from 127 parts in 1000, (the average) to as low a range as from 109 to 68 parts: the diminution in fibrine, albumen, &c., in confirmed chlorosis, as well as the presence of urea, and biliary colouring matter in the blood under such circumstances, varies of course to a great extent.†

2. The chief points of practical importance on the pathology of the blood during the chlorotic state, the effect of such a condition

\* Confirmed Chlorosis usually comes under the category of those cases of chlorosis termed in the former chapter "symptomatic or concurrent."

† The normal proportion of globules is 127 parts in 1000: 140 maximum, 100 minimum. Of fibrine,  $2\frac{1}{2}$  to  $3\frac{1}{2}$  in 1000: 5 maximum,  $1\frac{1}{2}$  minimum, of health. Of albumen in the serum, 78 in 1000; slightly increased in inflammation.

of the circulating fluid on the physical and vital properties of the textures, evidenced by symptoms during its continuance, will now be detailed. First in order ranks the peculiar tint of the skin.

This peculiarity of tint—green, light yellow, or their admixture—has given the title Chlorosis to this class of diseases. The designation Anæmia, or Hypæmia, is also applied, from the apparent bloodlessness of those textures which are usually seen most ruddy, from the quantity of blood circulating in them, as the skin of the cheeks, the lips, and the conjunctiva.

The quantity of colouring matter in the deeper cells of the epidermis, varying so much in different individuals, and often in the same person, in different parts of the skin, causes also a great diversity in the tint assumed by the skin during chlorosis. This, added to the deficiency of the hæmotosine in the globules, and to the languid and irregular circulation through the vessels of the dermis in protracted cases, renders the surface very pale over those portions not highly coloured naturally, whilst in other portions the tint is darker, the colouring matter being there more abundant. The darker the skin of the chlorotic person, the more manifest will be the greenish-yellow tint characteristic of the disease. In persons naturally fair, the skin is often of marble whiteness, with here and there only a greenish yellow tinge.\* The temperature of the surface is usually low. The mucous membranes, where they join the skin, are similarly blanched, and in dark-complexioned persons assume also a slight greenish yellow tinge. The eyeballs resemble mother-of-pearl: this is due to the blanched condition of the conjunctiva, sclerotica, and choroid, allowing the pigmentum nigrum to be partially seen through these textures, a condition not present in a healthy state of the blood.

3. Chlorotic dropsy is due as much to the languidity of the circulation through the skin (especially of the lower extremities) as to the impoverishment of the blood in protracted cases of the disease, or to the derangements of the heart's action, to be mentioned further on. The effusion first attacks the eyelids and ankles; the entire surface may become slightly cedematous; in some rare instances, the serous sacs become partially filled, seldom, however, without concomitant disease of the liver, heart, or kidneys.

\* If any doubt exists whether the tint of the skin be due to chlorosis or jaundice, the urine will dissipate it, not being coloured by chlorosis, whereas in jaundice it is dark (from containing the colouring matter of the bile) however little the skin may be coloured.

4. Hysterical symptoms attend chlorosis, and are in many instances the most distressing, as they are the least remediable of its phenomena, being kept up by derangements of the assimilating organs generally, and of the uterus in particular, incidental to the impoverished condition of the blood.

Hysterical neuralgia of various parts; globus and clausus hystericus; paroxysmal palpitations of the heart; excessive generation of intestinal flatus; frequent micturition with redundant secretion of urine, of low density, are the most frequent.

These symptoms are the more aggravated the greater the impoverishment of the blood, and the greater the susceptibility of the nervous system; in many cases they are absent, or present in a slight degree only, in others, they are most distressing, although the chlorosis is neither urgent nor has been protracted.

Symptoms identical with hysteria occur in males when chlorotic. Other symptoms, more or less hysterical, as frequent vomiting, abdominal pain, a jerking intermittent pulse, will be mentioned under other heads.

5. The presence or absence of amenorrhœa during chlorosis is an important feature to be attended to, since this complication has much to do with the presence or absence of hysterical symptoms: this part of the subject is intricate, and as prolixity in periodical literature is inexcusable, mention will be made in the following summary of the essential points connected with the enquiry as to the necessary association of the chlorotic state, with derangement of the uterine functions. When the catamenial flux is once established, and the other changes in the general system consequent on the due development of the ovaries have been perfected, the following causes severally or combined may be justly said to impair or suppress the menstrual evacuation.

- a. Impoverishment or vitiation of the blood, especially that attending chlorosis, phthisis, pulmonalis, and renal degeneration.
- β. Mental causes suddenly affecting the organic system of nerves, and the stomach, and the uterus in particular—as sudden transports of joy, grief, or anger.
- γ. Impairment of the uterine functions from congestion or sudden impressions made on the uterus through its nerves—in this manner, cold, inflammation, stimulating injections, and the like, exert a pernicious influence.

The chlorotic state probably influences the flux in the manner

first stated, by impairing the fluid from which it is derived—viz., the blood. In deducing practical inferences from the presence or absence of amenorrhœa during chlorosis, the following circumstances must be taken into consideration :—

- a. The catamenia, though usually somewhat influenced by the chlorotic state, are in many instances not materially so. When, however, the disease is protracted, more or less vitiation, defect, or suppression of the flux, invariably results.
- β. Whether viewed as a secretion from, or (as has been recently affirmed) as a periodical discharge of blood from, the mucous membrane of the uterus, the menstrual discharge is suppressed, or is eliminated deranged from all those causes affecting secretion generally.
- γ. A healthy condition of the blood being most essential to a due elimination of this fluid, it is usual to find it either absent, scanty, of paler hue (sometimes quite leucorrhœal), or otherwise defective, in the more protracted cases of chlorosis.
- δ. When such absence, lessening, or deterioration, have occurred in any patient under examination, the sequence of the uterine derangement presented will indicate pretty exactly the inroad the chlorotic state has made on the secreting and nutritive functions generally.
- ε. As the nervous system has much influence on the normal, as well as on the disordered, functions of the uterus, it is probable that the degree of implication of the nervous system has much to do with the degree of derangement of the uterus present in many instances constantly occurring in practice. This may account in some measure for the uterine derangement being less in some cases than in others, though the blood may be equally deteriorated.
- ζ. Chlorosis not being peculiar to any period of life, though from the 12th to the 30th year is the most usual period for its supervention, occurring as well before as after the establishment of puberty in either sex, it may rationally be presumed (a presumption which practical data have rendered certain) that when present before puberty, or soon afterwards, the chlorotic state retards its full establishment; this it does by the condition of the blood; presenting those incidental changes of the system generally, consentaneous with the generative ones, occurring at puberty.

Thus, then, it may be stated, that amenorrhœa, as a symptom or consequence of chlorosis, is not always present; when however it does exist it is one only of the defects of secretion met with as a consequence of the impoverishment of the blood. That though not suppressed, the menses may be scanty, pale in colour, or voided with difficulty: shewing with how great an effort the uterus eliminates this fluid during the chlorotic state, and that if puberty be not established, the chlorotic state present under such circumstances delays it, as well by the influence of the impoverishment of the blood on the system generally, as by any special effect on the generative apparatus.

*(To be continued.)*

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**CLINICAL REPORTS ON THE DISEASES OF CHILDREN, ILLUSTRATED WITH CASES AND DISSECTIONS.—By J. M. COLEY, M.D., CONSULTING PHYSICIAN ACCOUCHEUR; SENIOR PHYSICIAN TO THE ROYAL PIMLICO DISPENSARY AND LYING-IN INSTITUTION; AND LATE PHYSICIAN TO THE WESTERN DISPENSARY.**

1. **SMALL POX.**—This disease has prevailed principally in the confluent form during the last three months, and has, in numerous instances, entirely resisted both the modifying and prophylactic influence of vaccination. In some cases convulsions appeared at the commencement, and in others towards the termination, of the disease. In the latter the convulsive affections assumed the character either of epilepsy or chorea, and were generally accompanied or preceded by delirium. Some cases were attended with variolous laryngitis, and some were followed by cancrum oris, variolous ophthalmia, or tedious ulcerations in the ears or lower extremities. Mothers were sometimes attacked simultaneously with their infants at the breast, who generally, when very young, fell victims to the pestilence. Not only was the mucous membrane of the eyes affected with a peculiar inflammation, but that of the vagina also; and one case of the latter variety was complicated with a large abscess in one of the labia pudendi.

The treatment which I pursued was decidedly antiphlogistic at the commencement, and when symptoms of collapse supervened I prescribed disulphate of quina in conjunction with diluted sulphu-



ric acid. By observing this course neither petechiæ nor vibices appeared. In a few cases, in which cerebral inflammation was indicated, I found it necessary to apply leeches to the temples and evaporating lotions or cold water to the head. The delirium and loss of sleep which, in all severe cases, manifested themselves about the fourth or fifth day, were most successfully treated by large doses of opium: the excited state of the brain being found to be due to the exhausting pain and irritation which accompanied the progress of the eruptive process on the surface. This practice was adopted and recommended by Sydenham, and found exceedingly successful; but his pathology of the operation of small-pox poison on the infant constitution induced him cautiously to confine the benefit of the practice entirely to adults. The variolous inflammation in the glottis and larynx was, in every case, successfully combated by repeated doses of Chloride of mercury. In all such cases the disease was limited to these portions of the air-passages; and in all the post-mortem examinations I made during the last epidemic I found no vestige of inflammation or pustulation within the trachea or bronchial tubes. The cases of chorea which occurred in the decline of the disease gave way to disulphate of quina, nutritious diet, and repeated purgatives; and the epilepsy subsided under the same treatment in conjunction with a large dose of compound powder of ipecacuanha at bed-time, or repeated doses of opium and hyoscyamus. In all cases the bowels were purged by salts and senna every second day, or by chloride of mercury and jalap, and strict attention was paid to proper ventilation.

The local treatment consisted in the application of strong mercurial ointment every night to the eruptions on the face, which were so modified by its use that no permanent variolous marks were left, except in those cases which were neglected, or in which the children were permitted to excoriate the cheeks or nose. This practice was extensively introduced by me with the same success when the small-pox appeared in an epidemic form last year in Westminster; and as I published, at the time, in the *Medical Gazette*, a series of experiments to prove the benefit of this application, I need not farther allude to the subject than to observe that, the modifying power of mercury thus locally applied in arresting the progress of the eruption and preventing the suppurative powers, on which the slough of the true skin and subsequent march depend, was most satisfactorily illustrated in every instance. The inflammation and ulcerations of the conjunctiva were best treated by

nitrate of silver; the former requiring a lotion of ten grains to the ounce of distilled water, and the latter the application of the remedy in the solid form, shaped to a point like a pencil. The lotion was dropped between the eyelids, which were previously separated, three times a day, and the nitrate was used in substance every morning. The ulcers on the legs resisted water-dressing, but were readily cured by a saturated solution of nitrate of silver, and afterwards by the Ung. hyd. nit. oxyd. One ulceration in the leg of a girl was so obstinate as to render the plaster-bandage and roller perfectly inefficient. These obstinate ulcerations are not peculiar to small-pox, as I have observed them to occur after scarlet-fever in different parts of the body. In both diseases they are owing to the same cause, *i.e.*, the depressed and exhausted state of the organic nervous centres, produced by the previous inflammatory excitement in the circulation.

*Case 1.*—Louisa Blasset, aged 12, was admitted a patient at the Royal Pimlico Dispensary, with confluent small-pox on the fourth day of the eruption, on Aug. 30. Violent delirium having occurred during the following night, and no sleep having been enjoyed during the two preceding nights, I prescribed ten grains of pulv. ipec. comp., to be taken at bed-time. The medicine had the desired effect of promoting sleep and relieving the painful sensations accompanying the eruptions, and being repeated several successive nights, enabled the patient to pass through the disease with safety and comparative comfort.

*Case 2.* Thos. Lemon, aged 6, was admitted a patient on Aug. 30, with confluent small-pox. Sep. 4, delirium, with general convulsions and grinding of the teeth, commenced. Three leeches were applied to the temple, and a dose of chloride of mercury and jalap administered every second day. Seven grains of compound powder of ipecacuanha were also given every night. Under this treatment the convulsions and delirium disappeared, and the child recovered.

*Case 3.*—Louisa Davis, aged 13, was admitted a patient on Aug. 19, on the third day of the disease, with natural confluent small-pox, and on Aug. 25 was suddenly attacked with epilepsy, alternating with delirium. The pulse was about 78, and the temperature of the skin natural. I prescribed 25 minims of tincture of opium, and saw the patient again in the evening. She was then tranquil and perfectly sensible, but still suffering with paroxysms of epilepsy succeeded by delirium, the opiate not having had a full effect. I now

prescribed ten minims of tincture of opium and one drachm of tincture of hyoscyamus, once in four hours. On the 26th I found she had passed a quiet night, but was still subject to epilepsy in a slighter degree, which was always preceded by epileptic aura in one leg. The bowels were open. The opium and hyoscyamus were continued regularly until the 29th, when the epilepsy and delirium ceased, and the patient was able to sit up and take food, and resumed her usual appearance. The medicines were now discontinued, and a gradual recovery followed. An extensive ulceration in one leg, which was exceedingly difficult to heal, succeeded, and was at length cured by the application of a saturated solution of nitrate of silver.

*Case 4.*—A boy of the name of Lemon was admitted a patient on Sep. 5, with confluent small-pox, which commenced with convulsions. His age was a year and a half. On the tenth day of the eruption he was attacked with delirium and chorea, and uttered such hideous noises that his family could obtain no rest either day or night. The chorea consisted of a convulsive movement of the head from side to side, and involuntary motions of the eyes and eyelids. I directed the patient to take four grains of compound powder of ipecacuanha at bed-time every night, and had the satisfaction of finding that he discontinued the noisy expressions after the first dose, and by a regular repetition of the medicine, and the daily exhibition of disulphate of quina, the chorea subsided in the course of a week, the bowels having been relaxed, at proper intervals, by salts and senna.

**2. ACUTE INFLAMMATION OF THE DURA MATER.**—In my treatise on the diseases of children, at page 409, I have described this disease, and explained the prominent symptoms by which it may be distinguished from acute inflammation of the arachnoid and pia mater. Of these the most constant and conspicuous are remittent, circumscribed and intolerable pain, and intense local heat in some part of the fibrous envelope of the brain; the most common situation being the top or front of the head. Its usual cause is exposure to cold, or the transition of inflammation from the intestines, produced by the injudicious exhibition of opium in the treatment of acute dysentery. In its *sub-acute* form it is one of the most common concomitants of inflammatory typhus, induced by the same improper treatment of dysentery. The meningeal inflammation thus excited, is sometimes manifested at first in the pia mater, and ultimately extends to the other membranes. When acute inflam-

mation of the dura mater is produced by this transition from the subjacent membranes, it is complicated with more obvious disturbance in the mental functions, than when it happens to be the structure primarily or principally diseased. Hence in such complicated affections we find mania to accompany the attack in adults, and idiocy in children. It may be distinguished from softening of the brain by the remittent character of the pain, by the intense external heat, and by the concomitant fever, to which may be added the presence of more or less disturbance of the sensorial functions, and from tubercular meningitis; by the absence of vomiting, convulsions, and hemiplegia, and of alteration in the pupils.

(To be continued.)

**CATECHISM OF OBSTETRICS FOR MEDICAL STUDENTS AND JUNIOR PRACTITIONERS.—By J. E. PATTISON, SURGEON ACCOUCHEUR TO THE ISLINGTON MATERNITY CHARITY, LONDON.**

*Dedicated with all possible respect to W. E. HUMBLE, M.D., and the Committee of Management of the Islington Maternity Charity.*

**INTRODUCTION.**

The present Catechism of Obstetrics is an attempt to render a knowledge of the subject easily attainable, so that in all cases of emergency in practical obstetrics, the junior practitioner will be furnished within his own mind with an answer to every difficulty.

The plan of question and answer is not at all new—it is already adapted to very many departments of learning, and found to answer, and therefore requires no apology.

The matter, though for the most part a compilation, has been tested by a sufficient experience gained in the practice of obstetrics for many years; during the present year I may mention I am attending an average rate of between two and three hundred cases. I have consulted all the leading authorities of the day in its compilation; the observations on the use of chloroform are the result of an ample experience. As a whole, I hope the Catechism will be found correct in its advice as to rules of practice, as well as useful as a general remembrancer to the student and junior practitioner. Should it be the means of alleviating in one instance the sorrows of

childbirth, the writer's end and aim will be fully accomplished, as having, even in his day and generation, done some little good for the common weal.

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*Q. 1. What is the obstetric art?*

*A.* The study and explanation of the act of parturition, in order to alleviate, as far as prudent, the sorrows of childbirth.

*Q. 2. What preparatory knowledge is required efficiently to understand the subject?*

*A.* An accurate knowledge of general and microscopic anatomy and physiology, and organic chemistry, in order to trace out the laws of development of the ovum from the moment of conception to the full-grown foetus; and to read in the general anatomy during its stages of growth, the permanent conditions of existence of the lower animals, so as to recognise the original type in man, the most perfect animal; and the relation, by certain unities, to all living beings around. A knowledge of microscopic anatomy will enable us to understand the laws of increase and change in organic matter, from the simple cell of the unimpregnated ovule—the parent of the human body—to the most complex structures of the frame.

Organic chemistry will enable us to trace the connexion of food to animal tissue, and its mysterious conversion into the same, or in other words, the development of the living from the dead.

Physiology will teach us the use of the large amount of nerve and muscular structure that go to build up the womb, while Dr. Robert Lee's dissections, and Dr. Marshall Hall's late invaluable discoveries, and Dr. T. Smith's exposition of the discoveries in neurology—the relation of the spinal marrow to parturition, &c., &c., will aid us in simplifying some of the perplexities of nervo-motor action, and lead us to comprehend aright the very numerous reflex actions of the womb, and see how on these and other reflex actions having no natural connexion with the womb, but yet brought into play during parturition, the act of Labour itself is perfected.

*Q. 3. Is there any other branch of knowledge that it will be useful to be acquainted with?*

*A.* Yes. A knowledge of the principles of mechanics, in order for us to understand rightly the mechanism of parturition; or in other words, the reason why the different planes, axes, and diameters of the pelvic canal, are such as they are, and the relation they bear to the foetal head; the various presentations of the head,

its spiral motions in its exit, and varied positions during its birth, can only be properly appreciated by a knowledge of mechanical principles.

Q. 4. What else is especially required in the practice of obstetrics?

A. A well-educated finger or hand, so as to convey to the mind of the practitioner the exact knowledge of the real conditions of the parts concerned in parturition, during any stage of its proceedings. This education of the hand can only be obtained by careful observation and examinations, during the attendance on a series of labours.

Q. 5. What will be the best plan of studying the subject?

A. To investigate, first, the mechanism of parturition, and afterwards proceed to study the other parts of the subject.

Q. 6. What are the chief points requiring our attention on the mechanism of obstetrics?

A. The labour power; the parts through which the child has to pass; and lastly, the fœtus.

Q. 7. From what source is the most efficient power derived for the birth, and how is it effected?

A. From the womb. A large important muscle, which, at the time appointed by Providence, and from causes which will be afterwards explained, contracts at intervals, thereby producing expellent movements or pains, characteristic and constituting true labour, in obedience to the law of increase and multiply.

Q. 8. Is there any law that regulates the pains?

A. A cursory view would lead us to believe that the pains are so very irregular as to observe no law, but on a very careful study of this, as other departments of obstetrics, we shall see that there is a very beautiful adaptation of means to an end.

M. Lacombe, who has investigated the subject, states that first the interval between the pains is in inverse ratio to their duration; secondly, that the duration of each pain is in direct ratio to its intensity, that is to say, in proportion as the interval between the pains gradually diminishes so does their duration increase, and in proportion as their duration increases so does their intensity.

Q. 9. Define labour pain.

A. Labour pain is the expression of the womb's action.

Q. 10. Where do the pains commence?

A. It is difficult to ascertain exactly where they begin; some obstetricians say they arise first in the neck of the womb, and others argue that they commence in the fundus; perhaps the truth is, that in different stages of labour the contractions or pains adapt

themselves either partially, as in the first stage, to some particular part of the womb where resistance is to be overcome, or simultaneously to the whole of its muscular fibres, as in the second stage of labour, when the child is to be expelled.

Q. 11. Is the womb the only agent in labour?

A. No; labour is the result of a series of mechanical powers brought into efficient action by impressions made on the nerves of the body, neck of the uterus, vaginal passages, perineum, and external orifice.

Q. 12. What are the parts the child has to pass through in its travel from the womb to its exit?

A. The child has to pass through the pelvis and vaginal canal.

Q. 13. Describe the pelvis briefly.

A. The pelvis, in the language of Jewel, is formed by the union of the ossa innominata, sacrum, and coccyx. The former, in early life, are divided each into three pieces, viz., the ilium, ischium, and os pubis. The sacrum is divided into five pieces, and the coccyx into four.

The os sacrum is situated between the ossa innominata, is triangular in figure, concave anteriorly, and convex posteriorly. The os innominatum consists of the ischium, ilium, and pubis.

The ilium is broad and flat, and rather triangular in form, and forms the superior and lateral part of the pelvis, and that projection called the hip. The body of this bone presents three surfaces, one external, smooth and concave, forming the upper and outer side of the acetabulum; the second is anterior and united to the pubis; the third posterior and joins the ischium.

The ischium is situated at the lower, outer, and back part of the pelvis, presenting a body and processes. The body forms more than two-fifths of the outer and back part of the acetabulum; in this bone we notice the spine, tuberosity, and ramus.

The os pubis is divided into two parts, the body and ramus. This bone forms the anterior, and internal part of the os innominatum. The body is horizontal in its direction, presenting three surfaces, separated by three prominent lines.

The external extremity of this bone is thick, and presents three surfaces, one concave, which forms a portion of the acetabulum, another, superior, connects it with the ilium, the third, inferior, and joined with the ischium.

Q. 14. What distinguishes the male from the female pelvis?

A. In the female the bones are thinner, more smooth on the

surface, the muscular impressions being less strongly marked, and though its perpendicular depth is less, its breadth and capacity are greater. The alæ of the ilium are more expanded, the prominence of the sacrum is less, the upper strait is rounder and wider, the sacrum is broad and more concave, the pubic arch more round and open, the symphysis pubis is not so deep, the sciatic tuberosities are directed more outwards, and the acetabulum more distant from each other. The male pelvis is deeper, narrower, and stronger than the female.

**Q. 15. What are the diameters of the pelvis?**

**A.** The diameters of the pelvis are—the antero-posterior of the brim 4 to  $4\frac{1}{2}$  inches, the transverse  $5\frac{1}{4}$  inches, and the oblique  $4\frac{3}{4}$  to 5 inches; the relative proportion of these gradually changes in the cavity, until, at the lower outlet, the transverse is 4 inches, and the antero-posterior 5 inches, so that that which was the longer at the upper outlet is the shorter at the lower. From these diameters, according to Dr. Carpenter, a deduction of a quarter of an inch in the antero-posterior, and half an inch in the transverse diameters, must be made on account of the soft tissues clothing the pelvis.

**Q. 16. What are the directions of the axes of the pelvis?**

**A.** That of the brim looks upwards and forwards, and that of the outlet downwards and forwards.

**Q. 17. What are the directions of the inclined planes of the cavity of the pelvis?**

**A.** Downwards and forwards.

**Q. 18. Explain in what manner these measurements of the pelvis, direction of its axes, and planes, facilitate labour.**

**A.** 1st. It is evident, as Dr. Carpenter has pointed out, that as certain diameters only of the child's head correspond to certain others of the pelvis, the gradual change in these must be followed by a similar change in the position of the head, because the expulsive force presses the head forwards, and it can only advance by making this adaptation. 2nd. The change in the direction of the axes, and the effect of the inclined planes, more especially of the curve of the sacrum, must necessarily effect a change in the direction in which the foetal head moves, in fact, they alter it from that of the axis of the brim to that of the outlet.

**Q. 19. What are the obstacles the head has to encounter in its advance?**

**A.** The neck of the womb, the bony circle of the brim of the pelvis, and lastly, the lower outlet, closed in by ligaments, muscles, cellular tissue, and externally, the perineum.



Q. 20. What constitutes the natural division of labour?

A. The overcoming the obstacles before enumerated—thus, the first stage is terminated by the full dilatation, or obliteration, as Dr. Davis expresses it, of the os uteri, and the second stage of the exit of the child through the lower outlet.

Q. 21. Enumerate the most important measurements of the head, and to what do they correspond?

A. 1st. The longitudinal diameter, from 4 to  $4\frac{1}{2}$  inches, corresponds to the oblique diameter of the brim. 2nd. The transverse,  $3\frac{1}{2}$  to 4 inches, to the antero-posterior diameter of the brim, and transverse of the lower outlet in ordinary cases. And 3rd. The occipito mental or oblique, to the antero-posterior diameter of the lower outlet in face presentations.

Q. 22. Enumerate the measurements of the shoulders and hips, and what relation do they bear to the long diameter of the brim?

A. The transverse diameter of the shoulders is from  $4\frac{1}{2}$  to  $5\frac{1}{2}$  inches, and the hips from 4 to 5 inches. These diameters, it will be observed, being at right angles with the long diameter of the head, it follows that when the latter corresponds to the longer, or antero-posterior diameter of the outlet, they will be exactly in apposition with the long diameter of the brim.

Q. 23. To whom are we indebted for the best exposition of the mechanism of parturition?

To Professor Nægele, of Heidelberg, whose *Essay on the Mechanism of Parturition* was translated by Dr. Rigby, and is allowed generally to be the best explanation that has yet been given on the subject.\* This we shall follow in all its particulars.

(To be continued.)

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INFANT VIOLATION.—In the article on Infant Violation, at page 381 of the *British Record* we stated that in Dr. Taylor's *Medical Jurisprudence*, "it was held impossible to enter the vagina under ten years of age." This passage quoted was not the opinion of Dr. Taylor. On referring to the last edition, we find that the quotation alludes to a statement given in evidence by a surgeon to that effect, which procured the discharge of the prisoner. The talented author, however, entirely disagrees with this evidence, and contends that vulval rape should be punished equally with vaginal rape.—ED.

\* A new translation will be published in the course of 1849 in this journal, in which will be found many corrections by the younger Nægele, and will be the best exposition of Nægele's opinion on this subject.—ED.

ABSTRACTS OF NEW WORKS, WITH EDITORIAL  
COMMENTS.

ON THE SKIN, AND THE USES OF THE NEW EPITHEMS,  
WITH CASES.—BY ALFRED MARKWICK, SURGEON TO THE WESTERN  
GERMAN DISPENSARY, &c. LONDON: 32, KING WILLIAM STREET, CITY.  
1847. 12mo. Pp. 137.

*Published by the Epithem Co., King William Street, London. Price 2s. 6d.*

ABSTRACT.—The object of this little work is to point out the uses and advantages of the "Spongio Piline," and "Impermeable Piline," materials introduced some few months back, by the author, to the notice of the profession. The work itself is divided into four chapters. The first two are devoted to the anatomy and physiology of the skin, and the latter two to a description of the above mentioned articles. In chap. iii. the author points out, 1st, the nature of poultices and fomentations, and what their effects depend upon; 2ndly, the objections to them, and their inefficacy; 3rdly, the *modus operandi* of warmth and moisture; and 4thly, the requisites for an effectual and beneficial poultice and fomentation cloth. He then proceeds to describe the "Spongio Piline," which he says has the important advantage of retaining its warmth and moisture for several hours; of being applicable to every part of the body, without inconvenience or annoyance; of not being liable to decomposition; of being light, and therefore occasioning the patient no fatigue; and lastly, in being cheaper, more economical, and far more efficacious than the ordinary remedies. In proof of this he has advanced several cases, which have occurred in his own, and other practice. One of these was a case of "Puerperal Peritonitis," where it proved of great benefit; its superiority over linseed meal, which had been used unsuccessfully, being very apparent. Chap. iv. contains an account of the "Impermeable Piline," a fabric that is extremely serviceable as a chest-protector, in various affections; as a covering for scrofulous tumours; and for the application of stimulating liniments, to supersede blisters and mustard plaisters, &c.

ED. COMM.—We have examined this little work and find the above abstract a correct synopsis of its contents. It promises to be of much service to the general practitioner, and contains many valuable hints well worthy of serious consideration. But it does not demand any lengthened notice from us, not being sufficiently obstetrical; still we cannot dismiss it without a recommendation.—*Ed.*

ACCOUNT OF A CASE IN WHICH TWO FETUSES WERE  
UNITED AT THE STERNUM, WITH ONLY ONE LIVER AND  
ONE HEART COMMON TO BOTH.—BY R. U. WEST, Esq., SUR-  
GEON, HOGSTHORPE, LINCOLNSHIRE. *Pamphlet. Pp. 12, Illus. 7.*

*Reprinted from the Edinburgh Med. and Surg. Journal, No. 173. 1847.*

ABSTRACT.—This pamphlet is intended to draw attention to the birth of two fetuses joined together at the sternum, something similar to the Siamese twins, but differing widely in internal confirmation. The difficulties attendant upon a doublet passing through the female pelvis are considered at length.

The child was partly mutilated to facilitate delivery, which was eventually accomplished without injury to the perineum. The weight of the fetuses was 13lbs. avoirdupois. They had some peculiar, if not unique points about them, viz., the umbilical cord was supposed to contain four umbilical arteries, and only one vein; one liver and one heart common to both. Of other organs each had its share.

ED. COMM.—It is not easy to explain this case without the illustrations, we therefore refer the reader to the original. The course pursued by Mr. West to effect delivery merits our approbation, and we think that the case was most judiciously managed throughout. The peculiar anomalies of organisation are extremely rare, perhaps unparalleled. It is unnecessary to speculate upon the probabilities of such a case. We scarcely imagine they could have survived had no mutilation occurred. The illustrations are well executed, and of great assistance in understanding the case.

TABLE OF URINARY DEPOSITS, WITH THEIR TESTS FOR CLINICAL EXAMINATION.—By R. C. GOLDING, M.D., LONDON. FOLIO SHEET. PRICE 1s. K. RENSHAW, 356, STRAND, LONDON.

The title of this table fully explains its utility. It is arranged with great care and ability, and is evidently the result of experience and the most persevering enquiry. We cordially recommend it to the profession.

ON THE CAUSES AND TREATMENT OF ABORTION AND STERILITY. BEING THE RESULT OF AN EXTENDED PRACTICAL ENQUIRY INTO THE PHYSIOLOGICAL AND MORBID CONDITIONS OF THE UTERUS, WITH REFERENCE ESPECIALLY TO LEUCORRHOICAL AFFECTIONS, AND THE DISEASES OF MENSTRUATION.—By JAS. WHITEHEAD, Esq., F.R.C.S.—SURGEON TO THE MANCHESTER AND SALFORD LYING-IN HOSPITAL. ROYAL OCTAVO. Pp. 426. ILLUSTRATED WITH PLATES. PRICE 12s. LONDON: J. CHURCHILL. 1847.

ABSTRACT.—The author in this work, directs attention, in the first place, to the true nature and source of the menstrual product, and to the ascertained properties of the uterine and vaginal secretions. In the second place, he notices, the influence of employment upon the development of puberty, and particularly with reference to that in cotton factories. It having been broadly asserted, that in manufacturing districts early womanhood is remarkably evident as a consequence of the employment; the author conceives this is fully disproved by the inquiries recorded in this work. Thirdly, the average active duration of the menstrual function, from the age of 15½ to 47½. The average duration of the child-bearing aptitude (influenced, to a certain degree, by conventional usages) from the age of 21½ to that of 41½; and the evil consequences of early marriages, as particularly noticeable amongst the Irish. Fourthly, amongst the signs of pregnancy the author has noticed the physiological changes, effected upon the lower section of the uterus, from the commencement of the period, upwards, and has recorded some instances of menstruation during pregnancy, with the probable causes of these phenomena, as well as of the absence of menstruation before pregnancy. Fifthly, the statistics of abortion. Sixthly, the causes of abortion, and arrangement of

uterine diseases, according to certain differential and definite characteristics which they are found to present. Characters of venereal affections, and the evidence of their existence in the system. Prolapsus uteri. Virulent nature of the product of some forms of uterine disease. Purulent ophthalmia of infants, &c. Seventhly, the part on sterility is necessarily short, because the author conceives that what had been previously said, would contribute materially to a right understanding on this subject, and also because very little had been recorded by authors respecting this condition, as connected with *tangible uterine disease*. The author did not deem it requisite to dwell upon the different conjectures that have been hazarded by various authorities, anatomical defects, &c., as being capable of preventing fecundation.

ED. COMM. The abstract just presented to our readers affords a fair representation of the work now before us. We have perused it with considerable pleasure, and commend the author for the erudite manner in which the work is written, for the valuable facts he has recorded, and the ingenuity of their application. Our attention has been arrested by some reviews of this work, and more particularly by that in the *Medico-Chirurg. Review*, which we consider to err in saying that the physiological and pathological facts here collected are "*Mere matters of curiosity*." It is by a poor reward for such laborious investigations to be thus treated, but it is only another instance of the gross injustice of anonymous reviewing, our strong condemnation of which is recorded in our editorial address. We are at present compelled to condense our own remarks on this work as much as possible, as we purpose giving a lengthy extract as an example of the author's style, and method of treating his subject; promising, however, to enter more fully into some parts of the work in our No. for February. In reference to the nature and source of the menstrual product, and other secretions of the uterus and vagina (a subject even now but imperfectly understood), the author advances some valuable information, confirmed by the assistance of the microscope. Chemical analysis, however, (that powerful adjunct to all physiological and pathological researches) does not receive notice commensurate with its importance, and which we should have desired in a work of the nature of that before us. The author enters with a keen spirit of enquiry into the question "*whether employment in artificially heated factories has a tendency to produce precocious womanhood*." Upon this subject we have much to say, supported by our own observations and by the authority of Lignac and other writers; and we are obliged to confess that our views do not coincide with those advanced by Mr. Whitehead. Want of space, however, compels us to defer them to a succeeding number, when we shall enter most fully into the subject, and discuss all its relative bearings. The statistical table produced by the author is on much too small a scale, and likely to lead to erroneous conclusions. In fact, statistics can only be valuable and depended upon with safety, when collected on a very large scale. There are other causes connected with this subject, actively at work in the manufacturing districts, which are not alluded to in the work before us, and which, in our opinion, are deeply concerned in its proper consideration, and of momentous importance at the present day. These we shall also enter upon in our succeeding number. The particular references to the Irish poor we conceive to be rather misapplied, as the result of our own observations in the town of Manchester affords a very different conclusion; reserving these

points, however, the author's observations are deserving of serious consideration, and evidently matured by diligence and enquiry.

The portion we have selected for an example of the author's style, affords a truly distressing picture of the state of the labouring classes in the manufacturing districts: that it is not overdrawn, our own experience testifies. At the present time, when the social and moral welfare of the lower classes occupies so much of public attention, the information conveyed in the following extract will be much appreciated, and ought to be carefully read by all. To the statesman, philanthropist, medical man, and economist, we recommend its attentive perusal. Whilst thousands are lavished on converting the Hindoo, and civilizing the African, is it not strange that such evils should be tolerated in the very centre of our domestic system; nay, close to our very doors?

"The preposterous custom alluded to in our text (early marriages), the pernicious tendency of which is sufficiently obvious, is not the result of the factory, or of any other system peculiar to Manchester and towns of similar character, as some writers have alleged; it prevails principally amongst the poor Irish residents, who form so large a proportion of the population of the manufacturing districts. Marriages in the fifteenth and sixteenth years of age are constantly taking place amongst them; not suddenly, and by stealth, as might be supposed; but openly, deliberately, with the previous knowledge, if not with the approbation of the parents; and under the sanction of a solemn religious ceremony. In nine cases, out of every ten, neither party can read or write. The juvenile husband, if fortunate enough to be in employ, holds a precarious situation, by which he probably earns from six to ten shillings per week, and the wife realizes, perhaps, six or eight shillings more. But want of employment does not deter them from entering into the bonds of wedlock, provided they can obtain sufficient money to pay the marriage fees. If employed, however, the married couple live in comparative luxury for some weeks, or months, until by sickness or other misfortunes, or the contingencies of child-bearing, their supplies are cut off, and thus they become reduced at once to a state of pauperism.

Their household expenses are very trifling: and these discharged, the rest of their earnings is spent upon articles of daily consumption. Provision for the following day, or even for the following hour, never seems to form a subject of thought. They are content to lodge in the same cellar or garret with their parents and family, and other parties; they share the same litter of straw or of shavings, with other couples similarly circumstanced; they participate in the same domestic conveniences, the extent of which is somewhat singular and interesting. No furniture adorns the apartment in which they live, beyond one or two chairs or stools, and a sort of table. In many instances the floor of the room is never washed or even swept; the fire-place is never cleansed, and the ashes remain unmoved, except when the fire will no longer burn. The walls are never whitewashed. Some time ago I made particular enquiries upon this subject, of parties occupying several streets of houses in a district known by a name which indicates the origin of a great proportion of its inhabitants. Amongst them were individuals who had resided upon the property for a period of from twelve to twenty years, and *not one* could be found, who remembered any of the houses being either

whitewashed or painted. The walls and ceilings were worse than black, and stained by thousands of marks of slaughtered vermin, which had been crushed with the finger, or pursued with the flame of a candle, as they crawled along upon the mortar. The stench in most of these places was pestilential and suffocating. A pig not unfrequently occupies a corner of the apartment, where the inmates eat, and sleep, and cook their victuals.

The individual condition of these people is much in keeping with that of the places they inhabit. They are extremely inattentive to personal cleanliness. They seldom properly cleanse their skin, and perhaps never extend the process beyond the part immediately exposed to view. Their linen is worn for an indefinite period, without changing or washing. I have frequently witnessed a garment worn, unchanged, until it has fallen from the person in tatters. During the disasters of sickness, and especially during the puerperal period, the articles of dress nearest the skin become absolutely putrid. The whole drapery about the bed is literally saturated with filth, and alive with vermin, which are suffered to crawl unmolested, beneath the eye; and the emanations are overpowering.

In the economy of housekeeping their deficiency is most humiliating.— Their diet consists principally of dried fish, potatoes, and bread, and of expensive (comparatively expensive) ready cooked articles procured from the shops. The meat is never set forth upon a table; but distributed immediately from the pan, or smouldering ashes, as it approaches a state of edibility; his share of the morsel being seized by each, and consumed after his own fashion. Of the idea of “family circle” and “fire-side enjoyment” they are utterly unconscious. The meal, such as it is, being finished, an adjournment to the dram shop is a very common practice; and the intoxicating liquor is often poured down the throats of children five or six years old. They have no idea of the use of the loaf, but whilst it is new, regarding it as useless, or fit only for the pig when stale. Pieces of the finest bread consequently, are often seen scattered about the sick room in quantity sufficient to furnish one of the most suitable articles of diet that the invalid could desire, if only a little trouble was bestowed in preparing it. Arrow root, *sago*, and other nutritious articles are occasionally supplied from some of the medical institutions; but in general they lie neglected and untouched, and are ultimately thrown away, for want of knowing how to prepare them for use. Yet is a demand being constantly made by the patient or those about her, for something nourishing; referring always to wine or spirituous liquors.

Those who are in the habit of coming frequently into contact with the lower orders of the Irish peasantry, cannot avoid the conviction, that the origin of a vast amount of the misery that prevails amongst them, both in this and their own country, may be directly referred to these very imprudent, and unnaturally early marriages; to say nothing of the numerous instances of physical imperfection and mental decrepitude witnessed in the offspring of such unions.” Here our space compels us to stop; we have yet some important points to discuss with the author, and which we shall with pleasure enter fully into in our February number, particularly in reference to some errors in drawing his averages on the commencement of menstruation or puberty, and give ample illustration of the chapters on abortion and sterility, &c.

We think it will be difficult for the reader after this quotation of the author, not to agree with our view, that precocious womanhood does exist amongst the manufacturing population; that laxity of morals may be esteemed one, if not the great cause, assisted, no doubt, more or less by the artificial heat to which they are exposed.

*(To be continued.)*

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### OBSTETRIC RETROSPECT FOR DEC. 1847.

In commencing our retrospective labours we are compelled to apologise for the incompleteness of our design in this department, the multiplicity of subjects invariably attendant upon a new undertaking forced upon us in our editorial capacity, having prevented that full attention which we purpose, for the future, to devote to its execution. We have, however, much pleasure in informing our subscribers that the Retrospects of the Record will shortly be undertaken by a gentleman whose name alone is a sufficient guarantee for care of selection and comprehensive arrangement; but until our plans are more fully matured, the duty of necessity devolves upon ourselves.

We shall divide the subject as follows:—1st, Practical Midwifery; 2nd, Diseases of Women and Children; 3rd, Pathology; and 4th, Miscellaneous matter not included in the other divisions.

**PRACTICAL OBSTETRICY.**—This part of our subject is almost wholly absorbed by, and might justly be headed “Etherization and Chloroform application.” This is indeed the age of new discoveries, of which Obstetrics claims a proportionate share. So entirely has etherization and the exhibition of chloroform occupied the attention of the profession, that our notice of other matters must necessarily be limited on account of the paucity of materials afforded. This newly discovered Anæsthetic agent is forming a most important feature in the medical discussions and enquiries of the present day. Scarcely a meeting occurs but its investigation occupies a considerable portion of the proceedings; not a paper can be referred to without finding this subject frequently alluded to in its columns; and numerous pamphlets are in course of publication, enlarging upon its manifold advantages. The medical journals abound with reports of its successful exhibition in the most painful and dangerous operations, and were we implicitly to rely upon all that is stated, we should undoubtedly consider its discovery the greatest boon ever conferred upon suffering humanity, and the all-powerful means of converting the most dreadful sufferings into comparative ease and comfort. The greatest care is requisite in investigating this important subject, to enable us to arrive at a just and proper conclusion, unbiassed by the arguments and statements of others, and uninfluenced by the apparent grandeur and humanity of the discovery. However high in the profession the supporters of its advantages may be, and however numerous may be the records of its successful exhibition, it is our duty, not hastily to arrive at a positive conclusion, but carefully to study each particular case, divesting ourselves

entirely of the ardor naturally attendant upon first discoveries, and bringing an unprejudiced mind and a cool judgment, to penetrate into *the very deepest recesses* of the subject. In a short time all the uncertainty at present enveloping this powerful agent, will be dissipated by the vigour and intellect bestowed upon its investigation; it will then appear to all in its intrinsic value, and occupy its proper position amongst the discoveries of modern science. That the use of anæsthetic agents is of antient date, is undeniable; Dioscorides, Pliny, Apuleius, and other writers of antiquity, bearing ample testimony to their exhibition to produce "*insensibility to pain in those who are to be cut or cauterized.*" In the middle ages, also, this agency was employed in operative surgery, as evidenced by a curious extract from a surgical treatise by Theodoric, who died in 1298, quoted by Dr. Simpson. The Indians of the present day are apparently acquainted with its virtues: and the Swiss mountaineer is in the habit of destroying the nest of the formica rufa, and inhaling the aromatic perfume from it, as a restorative from the effects of labour and fatigue. The chemical and therapeutic history of sulphuric æther can be traced from Lully, Hollander, Valentine, &c., in the thirteenth and fourteenth centuries; to Valerius Cordus, who accurately described its formation in the sixteenth century; and to Frobenius, who gave it the designation of æther, and described it in the Philosophical Transactions of 1730. Its therapeutic history can be traced from its first mention as a medical agent by Valerius Cordus, down to Hoffman, Cullen, and other writers of the last century. Most probably, of all the numerous competitors for its first application in procuring insensibility to pain, the honor justly belongs to Horace Wells. Dr. Pearson was undoubtedly the first who recommended the inhalation of sulphuric æther as a therapeutic agent, in a pamphlet published in 1795; it was also alluded to by several medical writers before adopted by Dr. Morton as an anæsthetic agent. According to Dr. Pereira, chloroform was first obtained by an American, and communicated in "*Silliman's Journal*" of January 1832. About this period M. Soubeiran, and subsequently Dr. Black, of Manchester, also alluded to the subject. About 1834 Dumas and Peligot determined its true elementary constitution, and gave it the designation of chloroform; which, with Liebig's denomination of perchloride, it retains to the present day. In 1842, Dr. Glover published in the *Edinburgh Medical and Surgical Journal*, a chapter on bromine and its compounds, and mentions the physiological properties of the bromide and chloride of olefant gas, of kromoform, chloroform, and iodoform, and recommended their use in the treatment of diseases. To Professor Simpson, of Edinburgh, we are indebted for its present extensive notoriety, and for its *first exhibition* in cases of obstetricy. Although the candidates are numerous for priority of discovery, to him undoubtedly belongs the honor of its extensive application and adaptation to modern practice, and to him is to be attributed its present world-wide reputation.\* Its chemical composition consists of two atoms of carbon, one of hydrogen, and three of chlorine; or otherwise, one atom of formyle and three of chlorine—hence its chemical formula is  $C_2HCl_3$ , or  $FoCl_3$ . It may be obtained by various processes; but we have in our

\* Mr. Waldie, of Liverpool, declares that he first suggested the use of chloroform to Professor Simpson.



first number, p. 38, described the method of preparation. M. Dumas gives some curious particulars of the qualities of chloroform, which want of space prevents us noticing. Great care should be taken to obtain the best preparation, as Dr. Simpson attributes the length of time frequently required to obtain unconsciousness, to the use of an inferior production; to this cause the several cases recorded of its imperfect effects are also to be attributed. Different methods for its exhibition are resorted to, and all appear to possess their respective admirers. Professor Simpson recommends the use of a handkerchief alone, and many strongly advocate this opinion; but if care be not taken, irritation, if not vesication is produced. Others prefer a sponge, in some instances protected by a thin wire gauze, to prevent vesication; and some merely use a piece of lint. Whichever method produces the most immediate result, with the greatest simplicity and ease of exhibition, is undoubtedly the best; as every thing tending to arouse the attention, or to promote excitement, is peremptorily forbidden. The first sensation experienced is one of warmth and excitation, followed by a whirring noise in the ears, and accompanied by a vibratory thrilling and gradual benumbing of the body—loss of motion ensues—then sensation—and lastly consciousness. Its effects, according to Dr. Simpson, are soporose respiration, pupil sometimes contracted, sometimes dilated—pulse first quickened, then normal—muscles relaxed, rarely cataleptic, more rarely clonically contracted. Its effect on the blood is disputed.

Professor Simpson has published several pamphlets respecting the value and safety of its exhibition; entering fully into the question, and acquitting himself with considerable ability. He produces abundance of evidence to prove the safety and value of the discovery, and of its effect in producing insensibility to pain during the pangs of child-birth, its relaxation of the muscles, and its aid in assisting and facilitating parturition. He denies that it diminishes the uterine contractions, and distinctly states it is a duty incumbent upon every practitioner to exhibit this agent, as a means of lessening pain and danger in an agonizing operation. He mentions the traditional difficulties invariably attendant upon the introduction of new discoveries, and most energetically combats the opinions of those who disapprove of its application upon the grounds of religion. He produces many cases of its successful exhibition in lengthened and difficult labours, and when the assistance of instruments was required, without any injurious symptoms accompanying or following the application, and without the recovery of the female being at all retarded. Two cases of its successful use are recorded in the *Lancet* of December 4th—difficult parturition, and perforation consequent upon deformed pelvis; and thus, apparently, much suffering was avoided by the mother. Several successful cases are also recorded as having occurred at Paris, and it is there experiencing the most searching investigation. In the *Lancet* of December 11th, Dr. Simpson records nine cases of its successful exhibition, and its valuable assistance, particularly in the eighth case, where operative and instrumental assistance were required, and in the ninth, which was one of long continuance and danger.

Dr. Protheroe Smith is also an able advocate for the use of anæsthetic agency, considering its safety as already established, provided attention is

properly directed to the precautions indicated by experience; and that its administration in surgical operations will be the rule, its omission the exception. In considering its general employment in obstetric practice, he allows the effect produced upon the nervous system, but contends that the usual nervous concomitants of labour, viz., consciousness, pain, and spinal reflex action, may be absent, and yet parturition proceed. He quotes M. Dubois to prove the safety of etherization from the results of actual experience, and that it ultimately produces no bad effect upon either the mother or child. Dr. Smith then gives some cases, and concludes that its administration produces freedom from pain both in natural and operative labour; that it neither prevents or retards the subsequent contraction of the uterus, any momentary suspension of uterine action being probably occasioned by the novelty of the inhalation; and that it will prove a powerful agent in preventing rupture of the perinæum, especially in primiparæ advanced in life, by producing relaxation of the perinæal muscles, and rendering the patient incapable of sudden movements during the intolerable pains occasioned by the passage of the head through the os externum. The result of his investigations brings him to conclusions similar to those of Dr. Simpson.

Dr. Murphy relates two satisfactory cases, in which the crotchet was resorted to in one, and very nearly in the other; his opinion being that it relieves the nervous system from the shock caused by severe pain. Five cases are recorded in the *Lancet* of its exhibition at St. George's Hospital with comparative success; and every medical journal abounds with relations of them, though occasionally bordering on the marvellous. The number of cases occurring both in public and private practice, advanced in support of its value and safety, must not be received without the most careful investigation and enquiry into every circumstance. In the *Lancet* of December 4th, allusion is made to its exhibition being attended with violent convulsions. In the *Medical Times* two cases are mentioned which were accompanied with considerable excitement, and from which Dr. Mitchell very properly infers, that much caution is required in its application to obstetrics. He also mentions that its application in sound health produced hysteria, but arrives at no definite conclusion. At the meeting of the Academy of Sciences, M. Gerdy remarked its baneful influence upon the blood. Mr. Greame states that the exhibition of chloroform retards the course of labour, its agency rendering the voluntary muscles inert; and states that any relaxation of the parts that may be caused by its use, is more than counterbalanced by the loss of expulsive power; and strongly expresses his opinion, that its indiscriminate and unguarded recommendation in obstetrics, will ultimately lead to most calamitous results. Dr. Pettigrew records the result of his experience in its exhibition in several cases, in which slight vomiting, head-ache, and sickness occurred. Mr. Thomas, house-surgeon to the Carlisle Infirmary, records three cases of its exhibition, which were accompanied with singing, bawling, and incoherent talking, and the last was attended by violent convulsions. Dr. Alexander Tyler records a case of the recession of the presenting part of the child, during a state of anæsthesia, evidently indicating at least temporary suspension of uterine action, as one effect of this powerful agent; this also occurred during a second exhibition. Mr. Beales, of Suffolk, records

instances of its exhibition being followed by asphyxia and convulsions, and denies its superiority to the effects of æther. There are many other cases on record of its exhibition producing convulsions and excitement, but sufficient has been stated to prove the necessity of caution in its use, and the advisability of delaying a decisive opinion, until its merits have undergone a more lengthened investigation. What its ultimate effect upon the constitution may be, we have at present no means of determining; neither can we state, even forming an opinion from the numerous cases on record, that its exhibition during labour is unattended with danger to the mother, or may not ultimately occasion injurious consequence both to her and the child. The uncertainty of its effect can be fully proved by reference to the medical journals; and its very rapidity in procuring unconsciousness, render caution and deliberation of most paramount necessity in every instance of its exhibition. The perfect impossibility of controlling its effects, with the uncertainty attending its application, must ever militate against its general adoption; at least, until its properties are more fully understood, and means are discovered to ensure an effect proportionate to the necessity of the case, for rendering the exhibition uniform in its result, and for placing that result entirely under the control of the practitioner. The possibility of obtaining this desirable end still remains to be proved. *Had the excitement, the asphyxia, or the convulsions, recorded by some, occurred during the different operations we have before alluded to, the consequences would have been lamentable in the extreme.* And who can control its power, or ensure its uniform result? This uncertain operation is sufficient in itself to cause hesitation in its adoption; and we contend that until this is remedied, the exhibition of anæsthetic agents in obstetrics can never become very general, or be administered with perfect confidence and safety. The responsibility incurred is extremely great, in obstetric cases; for, in spite of the list of recorded cases, we fear that every fresh instance of its agency being adopted, is *but a continuation of a great experiment*; and will remain so, until the end to be obtained is capable of control, and can be relied and calculated upon with certainty. We feel convinced, also, that the real cases of its exhibition are not so numerous as their notoriety would lead us to suppose; and we are informed by many valuable authorities, that from the present period it will gradually decline in interest and popularity; until, like many other equally startling discoveries, it becomes perfectly lost and forgotten in the ardor of fresh pursuits.\*

Our advice is, carefully investigate, watch, and enquire, and we may depend upon its true value being speedily determined.

Before going to press our attention has been directed to the report of a committee appointed by the Medico-Chirurgical Society of Edinburgh, to enquire into the general effects of chloroform, which appears in the *Monthly Journal of Medical Science* for January, 1848. The first series of experiments relate to the pulse and sensation—the second to time and posture—and the

\* The Emperor of Russia has issued an edict, restricting the use of anæsthetic agents by any but professional men; but in England, with all its boasted perfection of laws, it is sold to any person by chemists, and is becoming as common in demand as a glass of gin in a gin palace.

third and fourth to the lower order of animals, with some pathological remarks. The results fully bear out our previous statements.

**RIGID OS UTERI.**—In the *Prov. Med. and Surg. Journal*, Mr. Barrett, of Bath, relates a case of extreme rigidity of the os uteri in labour, in which a free incision enabled parturition to be easily accomplished. In the *Medical Times* of December 18th, 1847, a similar operation was successfully performed in the *Hospital des Clinique*, for intense rigidity and thickness of the cervix. [We can imagine the possibility of such an occurrence, and can admit that the operation was justifiable in a very extreme case; but we should regret to hear of its unadvised approbation, lest it lead to a general abuse of its principles. These remarks will also equally apply to a paper read before the *Medical Society of Sheffield*, by Mr. Turton, on "The Induction of premature labour." We do not censure Mr. Turton's arguments; but we fear its too general adoption, and the evils resulting from inexperience in its application. In fact with regard to both the above questions, we maintain that no party should operate without the previous sanction of at least one other practitioner.—*Ed.*]

**PLACENTA PRÆVIA.**—Dr. Alexander Tyler, in the *Prov. Med. and Surg. Journal*, offers some very judicious remarks on the much agitated question of *Placenta prævia*. He objects to the extraction of the placenta when its presentation is complete, and the os uteri rigid and undilatable, preferring the plug saturated with vinegar and water. [There is much difference upon this point; in fact, the variety of opinions expressed almost produces distraction. It is a curious reflection that, despite the experience of thousands of years, the medical profession is not agreed upon the simplest questions of practice. Many would suppose that on these simple points the greatest unanimity would prevail, and that the laws respecting their treatment were as apparent as the sun at noon-day, and, like those of the Medes and Persians, unalterable; but how different is the real state of the case! what a gulph separates conflicting opinions! We have seriously thought of offering a prize to that fortunate individual who could advance one question on which all the profession are of the same opinion; with this proviso, however,—to prevent some medical wag from bearing away the reward,—that no allusion should be made to our *agreement in disagreeing*. If, as a profession, we could content ourselves with truthfully recording, carefully collecting, and minutely investigating, positive facts upon which to erect a safe practice, according to the example of our great father Hippocrates, and forsake the pursuit of the ideal for the careful study of the real, in a few thousands more of years we might probably obtain an uniform system of practice, and probably agree upon some of the most simple points of the profession.—*Ed.*]

**CESAREAN OPERATION.**—The case which occurred some time ago in Manchester, and which was followed by perfect recovery, has since been attended with a fatal result. The mother became again pregnant; induction of premature labour was resorted to, and the patient died. [We understand this case will shortly be published, consequently we shall offer no comments until the particulars are more fully recorded.—*Ed.*]

**RUPTURE OF THE UTERUS BEFORE LABOUR.**—Mr. Brownbill, in the *Prov. Med. and Surg. Journal* of Dec. 29th, relates a case somewhat remarkable, as the cause of the rupture remains involved in obscurity, and the rupture itself was only discovered upon a post mortem examination.

**MALIGNANT TUMOUR OF THE OS UTERI.**—Dr. Arnott, in the *Lancet*, Dec. 11, mentions a case of excision at the time of labour by which both mother and child were preserved, when otherwise one at least must have been sacrificed. The disease, however, again occurred, and terminated the female's life.

**ULCERATION OF OS UTERI, A CAUSE OF STERILITY.**—Dr. Mitchell, in the *Dublin Medical Press*, Dec. 8th, relates an interesting case, which was cured by application of nitrate of mercury, and subsequently nitrate of silver in strong solution. The lady afterwards bore children. Dr. Mitchell cautions the profession as to the use of sponge tents, and mentions a case in which a piece of sponge had been allowed to remain in the vagina, and had formed an adhesion with the os uteri, effectually blocking up the passage. The sponge had been used as a plug in a case of flooding during abortion, and when removed the female rapidly recovered and became pregnant. [We have frequently observed the tendency of sponge to form an adhesion with ulcerated surfaces, and have no doubt of the fact related by Dr. Mitchell. *Some years ago we attended a case of simple incised wound, in which, to stop the bleeding, the man had for some hours pressed a piece of sponge firmly upon it, and it was with the greatest difficulty detached from the part. The facts are worthy of observation on account of the cautions they offer.*—Ed.]

**LESION OF THE NERVOUS SYSTEM.**—Professor Simpson, in the *Transactions of the Edinburgh Obstetrical Society for 1846-7*, makes some valuable observations regarding the presence of Albuminurism during pregnancy as indicative of puerperal convulsions and other derangements of the nervous system, and of more frequent occurrence in first than in subsequent pregnancies. [These observations are extremely valuable, and when considered in connexion with the excellent paper by Dr. R. C. Golding, now appearing in our Journal, and with the remarks we have ourselves to advance on the diagnosis of ovarian disease, will open a new field of enquiry and investigation on this important subject. Nothing is of such importance as chemical tests of secretions and excretions in forming the diagnosis of disease. The remarks of Dr. Regnault on the urine in pregnancy are also applicable to this subject, and we refer our readers to them. The subject of his paper is the appearance of the urine and the character of its deposits, from the first to the seventh day after evacuation. Some modern authors profess to place no reliance upon urinary deposits or their chemical analysis, considering them fallacious and uncertain. We cannot agree to this, as we consider chemico-pathology one of the ablest adjuncts to medical science; and daily discoveries are being made in it, particularly as regards secretions and excretions.—Ed.]

**TURNING IN DISTORTION OF THE PELVIS.**—Professor Simpson draws attention to this, advocating its more frequent adoption in practice. It was in a case of this description that etherization was first resorted to, the credit being due to Professor Simpson. The idea of turning in case of deformed pelvis we believe originated with Velpeau. Dr. Radford, of Manchester, differs with Professor Simpson on this point, but as the next number of the *Record* will contain a long article on the subject, we shall at present decline entering upon it.

**PROLAPSEUS UTERI.**—M. Dubois remarks that in these cases he has derived

considerable benefit from the use of the American swathe or abdominal bandage, with some improvements he has himself adapted to it. So far as external support can be serviceable, of course such a bandage must be of use in cases which are not of an extreme character. M. Dubois also states that when external means fail, pessaries must be resorted to, of which he prefers his own, viz., an ivory funnel introduced into the vagina to receive the os uteri; the lower end of which is received into a small metallic cup, moveable and attached to two flexible steel arms; one passing behind the anus, the other in front of the vulva, and confined by a bandage surrounding the pelvis. Its being moveable prevents its constraining the wearer, and it can be cleaned at pleasure.—*Jour. de Med.*

[The spiral elastic pessary, invented by us some years ago, and introduced to the medical section of the British Association for the advancement of science at the Manchester meeting (for account of which vide *Med. Times*, 1842), does not appear to be at all known in France, although adopted by many in this country.—*Ed.*]

**RETROFLEXION OF THE UTERUS.**—Dr. Beatty remarks that the point of deflexion is where the neck and body of the organ join; the angle varying considerably, sometimes being very acute, at others very obtuse. He states that it results from pregnancy, and does not exist during gestation; in other words, that it occurs after delivery. Velpeau records fifteen cases, all unimpregnated, but consequent to delivery. Dr. Davies hints that it may occur congenitally. Retroflexion differs from retroversion in the following manner; in the latter the os and cervix are thrown upwards; whereas in the former the os and cervix remain in their natural position, whilst the fundus is thrown downwards. Dr. B. imagines that this displacement mostly occurs immediately after delivery, whilst the uterus is soft and pliable, but is not discovered until the female resumes her employment. The method of cure is to restore its position, and to practice lying on the belly as much as possible, until the organ has shrunk to its natural size. The indicatory symptoms are, dragging pains in the loins and groins, which are increased by exercise; pain in defecation; a feeling of blocking up of the passage; irritable state of the bladder; menorrhagia and leucorrhœa often extreme.

**DEATH FROM VOMITING DURING PREGNANCY.**—Professor Forget, of Strasburgh, has recorded a curious case of this nature in the *Lancet*, Dec. 18, 1847, which should be read in connection with a paper on the same subject now progressing in the *Record*; the subject is of paramount importance.

**PUERPERAL CONVULSIONS TWENTY-FOUR HOURS AFTER DELIVERY**, which terminated fatally thirty-eight hours after seizure. This case is related in the *Medical Times*, Dec. 18, but as no post-mortem examination followed the cause remains in obscurity.

**PUERPERAL FEVER.**—Dr. Scanzoni, of Prague, states that the rawness of the internal surface of the uterus is not the only predisposing cause, but that it often arises from a peculiar state of the blood, which is indicated by increase of fibrine; which in excess is the primary cause of puerperal fever. The general type is fibrinous, from which all other types are derived. That hypnosis of the blood gives immunity to that form of puerperal disease, which is accompanied by fibrinous exudation; but that it affords little protection

against suppuration, and none against the typhoid. That the hyperinotia form frequently occurs during epidemics, and merges into the purulent or typhoid form. That the two last may be either developed primarily in the blood, or by absorption of pus. That this absorption can either arise from suppuration on the surface, in the tissue, or the appendages of the uterus; or from the placenta. That the cases which run the most rapid course are those resulting from a primary disease of the blood; the less acute are the result of absorption.

**VESICO-VAGINAL FISTULA.**—Dr. Jobert offers a new mode of operating for its cure, which he supports by four cases. The *modus operandi* is not very distinctly described, but we give it in his own words, or nearly so. The plan does not merely consist in the displacement of tissues, or in the dissection of a part of the membranes proportionate to the aperture, but the organ itself is to a certain extent displaced, after being rendered movable by the detachment of some of its insertions. The vagina and bladder change their relative positions, and the lips of the most extensive fistulæ are united without dragging, dissection of flaps, &c., so often productive of gangrene.

**HYSTERIA.**—M. E. Marchand states that the blood generally contains 125 parts to 1000 of red globules; that the proportion is often reduced to 24 parts to 1000, and in proportion to this reduction there is caused more or less nervous disturbance. Under this view a host of nervous affections are produced, hysteria amongst the number. Women are more liable to this diminution than men, consequently they are more hysterical and more nervous. He accounts for this by their menstruation, at which times their nervous susceptibility is increased. In young girls the want of globules results in chlorosis, in women in hysteria, and in men in hypochondriasis; and thus he accounts for a host of diseases. In such cases the treatment is to restore the normal state by animal diet, wine, iron, bitters, by exercise in the open air, and by sea-bathing; not by antispasmodics, which calm but never cure. On the contrary, when the proportion of globules is too great, say from 140 to 170 to the 1000, the sensibility is impaired, which leads to apathy, and results in gout, gravel, and cerebral hæmorrhage. The cure for this is venesection, spare diet, vegetable food, alkaline waters, &c. The functional derangement of the nervous and vascular systems arise in an inverse ratio. [There is much common sense in these views, and they are worthy of serious consideration.—*Ed.*]

**DISEASES OF CHILDREN—SCARLATINA.**—Dr. Rowland in the *Medical Gazette*, Dec. 17th, draws attention to the frequency of scarlatina in the metropolis, terminating in dropsy, even in the mildest form of the primary disease.

**URINE DEPOSITS.**—Mr. Grantham, in the *Gazette*, Dec. 18th, instances some diseases of children characterised by phosphatic deposits in the urine, which are deserving of attention.

**COMATOSE AFFECTIONS OF CHILDREN.**—Dr. Togood directs attention to a sudden and formidable affection of the head in children, which is rapidly fatal unless most energetic treatment is immediately adopted. Dr. Marshall Hall also notices this affection. Leeches, blistering, and calomel are recommended by Dr. Togood, with mustard cataplasms to the feet.—*Monthly Journal*. [We see nothing new either in the disease or the method of treatment.—*Ed.*]

**LOBAR PNEUMONIA.**—Dr. C. West, in his lectures, *Gazette*, Dec. 1847, re-

marks that this disease of childhood is much more prevalent than is generally supposed, and that it possesses similar characteristics with the same disease occurring in the adult. In such cases attention is particularly directed to the sub-plural ecchymoses, to the pneumonic abscess, and to the emphysema of the inflamed portions of the lung.

**VESICULAR BRONCHITIS.**—Dr. C. West also states in his lectures that the ordinary bronchitis is a much more serious disease in the infant than in the adult, and shews that the dyspnea is not always dependent upon the severity of the inflammation. Bleeding and antimony are the principal remedies recommended.

**PATHOLOGICAL OBSERVATIONS.**—In reviewing the proceedings of various pathological societies, we regret being compelled to omit many reports on account of their utter worthlessness, arising from a total absence of all history of the symptoms whilst living. True pathology consists in comparing symptoms during life with appearances after death, and we consider it the duty of the presiding officials of such societies, not to allow any subject to be brought forward, that is at all incomplete in this respect. In the past month numerous cases of organic lesions are noticed, which, if accompanied with a proper history, would have proved most valuable, but according to the present system, the long speeches in explanation can only be considered as a notice that such an individual occupied so much valuable time by talking unprofitably. Had it been otherwise, we should have been enabled to record a large number of curious facts; but the number is extremely limited, as we are resolved only to notice the cases which are likely to prove valuable on account of their complete description. Even some of these are far from being satisfactory in this respect.

**CORRODING ULCER OF THE UTERUS.**—Mr. Boulton exhibited a specimen to the Bath pathological society, whose existence was only discovered about six months previous to the patient's death, at the age of fifty two. Menstruation, which had been regular, was supplanted for the last six months by a constant sanguineous drain, attended occasionally by profuse hæmorrhage, and terminating fatally with anæmia and peritoneal inflammation. It was remarked to possess more the character of lupus than true cancer.

Mr. Dumville in the *Med. Gazette* of Dec. 24th, relates a case of congenital occlusion of the vagina in which an incision, combined with puncturation of the cul-de-sac of the upper portion of the vagina, was perfectly successful and the mother afterwards bore a child. The case is so briefly sketched that we are almost unable to comment upon it; but its success, however, proves the propriety of its adoption.

**CONGENITAL CONTRACTION OF THE INTESTINES.**—Mr. Harrison exhibited at the Reading pathological society a specimen, in which the jejunum was contracted, which gradually extended along the ileum and colon, terminating at the rectum in an almost perfect cul-de-sac. The child was born healthy, but speedily declined, vomiting mæconium and unable to retain anything upon its stomach, and died apparently from obstructed bowels.—*Med. Gaz. Nov. 26th*, page 947.

**DISEASES OF THE HEART.**—At the pathological society, London, Nov. 15th, the heart of a child was presented by Dr. G. A. Rees, exhibiting an open state



of the ductus arteriosus. It was born at the eighth month; feeble, with difficulty of breathing from birth, but never livid in any part. Died ten months after birth, not particularly emaciated; sternum prominent; breathing laborious; a loud cardiac murmur audible over the whole chest, drowning the sounds of the heart; no cyanosis, but on the contrary, very pale. The upper lobe of the left lung and the middle lobe of the right lung, had never been inflated. Weight of the heart 1 oz. 11 dr. avoird.: it was partly hypertrophied. For further particulars see *Med. Gaz. Nov. 26th*, page 944.

CONGENITAL DEFICIENCY OF THE GALL BLADDER.—Under this title Mr. Canton has given particulars of a post-mortem examination of a female aged sixty-five years, in which he discovered a small portion of bile diffused upon the intestines; no gall-bladder was perceived, but a small indentation of the liver where it usually appeared. From these circumstances, and from the smallness of the liver, Dr. C. concluded, after a minute search, that no gall-bladder existed, and that it was a congenital deficiency.—*Lancet*, Oct 16th.

[It appears strange to us how the bile was diffused over the intestines; what caused the indentation in the usual situation of the gall-bladder; and how the female lived to the age of sixty-five years, without such an important agent in digestion? It appears to us by no means certain that the gall-bladder really was wanting; and certainly less clear that the deficiency was congenital. It is probable that it was unusually small; that one had originally existed, the indented liver proved; and the diffusion of bile over the serous surface of the intestines proved a rupture of the gall-bladder, however small. The great deficiency in the relation of this case is the total absence of all information as to its previous history; the symptoms antecedent to, and the cause of death. This is an example of the frequent imperfection of these pathological displays.—ED.]

OVARIAN CYSTS.—In a fatal case of peritonitis, Mr. Crisp at the post-mortem examination discovered a tumor consisting of serous cysts of various sizes attached to the left ovary aggregately as large as a man's fist, and to which another cyst was attached containing a pint of chocolate coloured fluid. The fluid lying in the abdominal cavity was of a similar character.—*Medical Gazette*, Nov. 26th, page 916. [If such was the case, the cause of death is evidently to be attributed to the bursting of one of the cysts, the fluid producing peritoneal inflammation. There is a wide distinction between the contents of all ovarian cysts and the fluid deposit of the abdominal cavity. A distinction which we hope satisfactorily to prove in our papers on ovariectomy and ovarian diseases.—ED.]

DOUBLE VAGINA AND UTERUS.—Mr. Birket exhibited at the Bath pathological society a double vagina and uterus, taken from a woman of the age of fifty who had never borne children. The vagina was completely divided by a dense fibrous septum. Thus two were formed, and each led to a distinct os uteri. The uterus itself was nearly divided by a septum in the median line.

MISCELLANEOUS INFORMATION.—In conclusion we would direct attention to the excellent lectures on the diseases of children by Dr. H. Willshire now in course of publication in the *Medical Times*, which contain many very valuable practical observations. Also to the lectures on obstetrics in the *Lancet*, by W. Tyler Smith, M.D., London.

FURTHER REMARKS ON MR. WHITEHEAD'S WORK ON  
ABORTION AND STERILITY.

(Continued from page 6, of the No. for January 15th.)

In the notice of this work which appeared in our Monographic Number for January 15th, we stated our disagreement with Mr. Whitehead upon his opinions respecting the causes of early puberty. We have had an experience of thirty years amongst a factory population, and our opinion is, (as will be seen upon reference to some papers published by us in *The Medical Times*, vol. 7th, p. 199,) "that a decided tendency to precocious womanhood is undoubtedly generated in such manufactories." Even allowing the powerful evidence advanced by our author, we cannot relinquish this idea; and although we may yield to him on some of the minor points, we still maintain the general principle. As we previously stated, statistics can only be considered safe when calculated upon a very large scale; and we also conceive that many causes as strongly inductive of a tendency to such precocity as the artificially heated manufactories themselves, are only slightly alluded to, or totally omitted. For instance, the congregation of the sexes, at an early age, in such places; the obscene conversation so generally indulged in; the facilities afforded for immoral purposes, by proceeding and returning from work in the dark of the morning and evening; and the dreadfully neglected condition of their general morals. Did our author, or Mr. Robertson, who also wrote on the same subject, ever peruse the work of M. Lignac? If not, we advise a reference to it, as it contains abundance of evidence proving the influence of climate and temperature in producing precocious puberty. Lignac, however, does not consider climate the *exclusive cause*; for in some parts of the Russian dominions, inhabited by the Samogedeans, consisting of frozen morasses, howling wildernesses, and mountains covered with perpetual snow, where the human race exists in the coarsest form and lowest possible state, are frequently found girls who are mothers at eleven or twelve, and cease menstruation at thirty. To what, in this inhospitable clime, can such precocity be attributed? Not, most certainly, to the fostering warmth of a genial atmosphere! It is to be attributed to the debased condition, both social and moral, to which they are degraded. Huddled together in small huts of one apartment only, all sexes and ages promiscuously mingled, the young must, of necessity, often witness that which encourages the germ of their animal desires, and leads to an almost premature gratification of their sexual appetites. Here, in England, which certainly by geniality of climate does not encourage precocious puberty, what a vast amount of early cases could be produced in support of scientific argument! In our vast metropolis, how many instances can be advanced of comparative children indulging in all the vices and sensuality of manhood; and what numerous cases remain hid in obscurity, for want of an exploring hand to drag them forth! As in Russia, we cannot attribute this to the influence of climate or temperature wholly; we must attribute it to a degraded moral and social condition; to the promiscuous amalgamation of the sexes in masses; to the facilities afforded. &c. &c.

In reference to the particular application of this precocity to the Irish poor, we can only apply the result of our own experience. In eleven cases of females who became mothers before the completion of their fifteenth year, not one was Irish; only two of the putative fathers were, and they were grown men and married.

That portion of the work devoted to the physiology of menstruation and the nature of the vaginal and uterine mucus, is well deserving of most attentive perusal. There is much useful information relative to the periodicity of menstruation, and some curious instances of its irregularity are recorded. Our author states that persons of bilious, or lymphatic-bilious temperaments, have the menses in greatest abundance and of the longest duration; those of sanguine temperament, the contrary. He also says that the mucus of the vagina, in its normal state, always exhibits acid properties; that of the uterus is as constantly alkaline. The occasional deviation from this rule is accounted for by abnormal causes, and the author makes some valuable observations upon the "true catamenial fluid," corroborated by the results of several experiments, which also support the acknowledged fact, that the menstrual blood proceeds from the inner surface of the uterus. Spurious menstruation is also treated upon, and the author appears to consider it a consequence of diseased surface alone, and not proceeding from the cavity of the uterus.\* Mr. Whitehead has been condemned for a too indiscriminate use of the speculum, but this is no argument against its proper adoption. The British public are not so much accustomed to its use as our continental neighbours; and the false delicacy of the idea that it destroys the feelings of modesty, we consider too absurd to require even momentary consideration. If the nature of many diseases has been mistaken for want of its assistance, are we still to flounder in the dark and pursue our uncertain career? No! if the speculum be necessary, use it—but *use it with all decorum*. It is very evident that the secretions of the vagina and uterus have been too long neglected; and it is equally evident, that the assistance of the speculum is indispensable in obtaining a perfect knowledge of their nature and properties; let, therefore, its use be adopted, *with all possible regard to decorum and delicacy*, and with the remembrance that its utility may be lost by abuses, and injury beyond professional scrutiny may be inflicted.

In noticing our author's remarks on puberty we perceive that he has committed the error common to all staticians on this subject, of endeavouring, by striking an average, to ascertain the age at which menstruation commences. In the excellent work of Mr. Robertson, also of Manchester, the tables on this subject are equally erroneous, and it is our duty to expose the fallacy, to prevent it misleading others. Our objections to Mr. Robertson's tables were the following:—That for a statistical enquiry the numbers were far too limited whereon to found a general law; that the information, not being all derived from professional sources, could scarcely be depended upon; and that items *were included* which ought not to have appeared. This particularly applies to our author. For instance, out of a given number,

\* We think Mr. Whitehead would have saved himself an immense labour in his researches had he consulted Boismont and Denis Bourchardat, who had arrived at analogous conclusions some years ago.

At 10 years 9 menstruated.			At 20 years 71 menstruated		
11	"	26	"	21	9
12	"	136	"	22	6
13	"	332	"	23	2
14	"	638	"	24	1
15	"	761	"	25	1
16	"	967	"	26	1
17	"	499	"		
18	"	393	"		
19	"	148	"		

4,000—Giving an average of 15 years and nearly 7 months.

These tables naturally suggest the following questions: Why include ages from 17 to 26? Is it not notorious, that after 17, although true normal menstruation may be absent, a morbid action is substituted in the system in lieu of it, which is known as chlorosis, &c.? If this morbid action exists, *can puberty be denied?* Are there not examples in the pages of our author of females becoming mothers without previous menstruation? In such instances puberty cannot be denied, and it would be equally absurd to deny menstruation, though abnormal. We contend that such tables ought not to include females, in whom a morbid substitute for menstrual secretion exists, as examples of *menstruation not having commenced*. The literal meaning of this term is *puberty deferred*, or not arrived, and this cannot apply to females in whom a morbid action exists in lieu of natural menstruation, or who have borne children without any menstruation at all. It would be as reasonable to deny the existence of the uterus in a case of uterine disease, as to deny that the period of menstruation had not arrived in a chlorotic female. It is true that this error may occasion but a slight alteration in the average figure, but this ought not to prevent the fallacy being exposed, and thus preventing its continuance as an acknowledged fact. We again repeat that these tables often lead to erroneous conclusions. There is much uninteresting matter introduced into this chapter, which appears to us entirely foreign to the subject, independently of the false reasoning so plentifully indulged in with the object of proving the author's deductions. We are also much disappointed with his treatment of the important subject of Diseases of Menstruation; and his remarks upon those most commonly occurring during the period of the last menstrual crisis, although in some respects instructive and proper, do not indicate that close observation and deep research, which the intricacy of the question so imperatively demands. In that portion devoted to the Signs of Pregnancy, the author advances certain physiological and pathological changes occurring in the lower section of the uterus, some of which are both remarkable and interesting. His remarks upon the urine, however, caused us considerable surprise; the great changes occurring in its chemical relations being acknowledged, but stated to be inconstant and of little value. We must express our total dissent from this opinion, which we attribute to an absence of minute investigation. The valuable paper appearing in THE RECORD, by R. C. Golding, M.D., will fully disprove the author's conclusions; and "Urine in Pregnancy, by Dr. Regnaud," which is noticed in our Retrospect in the Monographic No., January 16th, will still further aid in the refutation

of his arguments. The opinions of matrons and nurses upon the white, loose-looking flocks, floating on the surface of urine after some hours standing, *are not to be totally disregarded*; they may be antiquated, *but still be true*.

In this chapter, Mr. Whitehead advances the repulsive and speculative opinion, that sexual intercourse during menstruation insures conception, and with apparent conviction of the truth and force of his arguments, calmly recommends its adoption. It is not necessary for us to expose the fallacy of his reasoning in a physiological point of view, or the incorrectness of the analogy upon which he bases his theory, as every medical authority of any repute is entirely opposed to such a forbidding practice. We have elsewhere alluded to the blame attached to Mr. Whitehead, in certain reviews of his work, for the frequent use of the speculum, which we conceive to be founded upon false delicacy, and likely to retard the progress of enquiry.

The chapters on the causes, &c. of abortion are good, and sufficient in themselves to compensate the reader for the perusal of the work; containing an accumulation of well-digested facts, the illustrative cases being well selected, and given unreservedly. Still, there is an incompleteness by no means satisfactory, and many of his statements we cannot respond to. His last subject, sterility, is perhaps too cursorily treated; but the previous matter is, in some respects, explanatory of it, and probably renders a longer treatise unnecessary; more particularly as the author intentionally avoids the mere speculative opinions of early writers.

Having thus devoted considerable space to the notice of Mr. Whitehead's work, we must commit it to the care of the medical public; and we trust the author will receive a proper reward for the labour and diligence required for its completion, and for the accumulation of evidence he has thus succeeded in introducing to the notice of the profession.

PRACTICAL OBSERVATIONS ON MIDWIFERY, AND THE DISEASES INCIDENTAL TO THE PUERPERAL STATE.—By ALFRED H. MCCLINTOCK, M.D., F.R.C.S.I., EX-ASSISTANT TO THE DUBLIN LYING-IN HOSPITAL; VICE-PRESIDENT OF THE DUBLIN OBSTETRIC SOCIETY; AND LECTURER ON MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN IN THE SCHOOL OF MEDICINE, PARK STREET: AND SAMUEL L. HARDY, M.D., F.R.C.S.I., EX-ASSISTANT OF THE DUBLIN LYING-IN HOSPITAL, AND VICE-PRESIDENT OF THE DUBLIN OBSTETRIC SOCIETY. 1 Vol. 8vo. pp. 368. DUBLIN: HODGES AND SMITH, GRAYTON STREET.

ABSTRACT.—This is not intended for a systematic treatise on midwifery, but for a purely practical work. The materials for its composition were collected in the Dublin Lying-in Hospital, of which it contains an accurate clinical report for the years 1812-3-4, published by the permission of the late master, Dr. Charles Johnson. During this period, 6,634 women were delivered. The different subjects included under the four heads of natural, difficult, preternatural, and anomalous labours, are separately treated, and the remarks upon each are followed by a summary of cases, with the details of such as possessed

peculiar interest, and a statistical table, exhibiting at one view the leading particulars of all cases of the kind under consideration, which occurred in the hospital during the three years over which the report extends. In addition to this, distinct consideration is allotted to the principal diseases of child-bed, to infantile ophthalmia, and to the restoration of still-born children. The great, and almost exclusive, object of the authors throughout the entire work, was to be as practical as possible; avoiding all speculative and unprofitable questions, and estimating the importance of each subject solely by its claims on our attention, and the interest it possesses at the bed-side of the patient. The value of the work is much enhanced by a most copious index, which at once enables the reader to find all the information (however scattered it may be) contained in the work upon any one subject; as for instance, "Auscultation"—"Ergot of Rye"—"Bleeding"—&c., &c.

EDIT. COMMENT.—The authors of this truly valuable and practical work have been far too modest in the statement of their claims to notice, in the abstract just presented to our readers. We shall, therefore, endeavour to supply the deficiency, and to convey to our readers a more comprehensive detail of the contents of the volume before us. We can truly state, that it is long since we examined a work so replete with valuable and practical information. Every page may be consulted with advantage; even the introduction, which is often a mere common place affair, contains a mass of evidence almost startling. For example, the work presents the results of 6,634 cases, extending over a period of three years, producing 6,702 children; nearly one-third of which, 2,125, were first labours—thus shewing that first labours form a large proportion of labours in general, and proving what had been often previously alluded to. The deaths were scarcely 1 per cent. (1 in 402), or 65 to the whole number; of these, 35 were primiparæ. The heaviest causes of death were phlebetis and arthritis, 24; ruptured uterus, 9; peritonitis, 7; sloughing of uterus and vagina, 6; effects of hæmorrhage, 5; from a variety of causes, 14. As 11 deaths were not puerperal, and 4 were dying, or near it, when admitted, the true mortality would only be 1 in 132. Then if puerperal fever be regarded as an accidental occurrence, the true deaths would be 1 in 250. The result of 6,634 labours, with their former children, makes a total of 20,680 children, exclusive of abortions. Of these 9,648 were girls, and 11,032 boys. Of the hospital births, 3,351 were males, and 3,151 females. Of the males, 198 were born dead; of which 62 were putrid. Of the females, 127 were born dead, of which 80 were putrid. Thus a curious fact is arrived at, viz., that a preponderance of males are sacrificed in labour, and a preponderance of females die in utero. This agrees with the former reports of this hospital, and fully confirms Professor Simpson's view as to the sex of the child. The premature births to the whole were 106—52 boys and 56 girls. Of the 52 boys, 9 were dead and 15 putrid; of the 56 girls, 9 were dead and 22 putrid. This is another confirmation of the above statements. Can it be caused by the female being more delicately constituted, and consequently more liable to suffer from injuries. Generally the child was expelled in ten days after its death in utero. Another curious fact also presents itself; pretermatural births were characterized by pretermatural presentations. Thus, of 106 of this description, 17 were breech; 12 footling; and 9 arm presentations. This contradicts the

generally received opinion, that the size of the head in the early months increases the probability of head presentations. This cannot be, as if it were so, nearly all preternatural labours would be head presentations. This curious fact has been noticed by M. M. Dubois and Cazeaux. Having thus afforded a brief sketch of the introduction, we will now consider the work itself, which is divided into the various heads of natural, difficult, preternatural, and complex labours; then follow convulsions, rupture of the uterus, twin births, funis presentations; and the whole concludes with observations on ophthalmia, neonatorium, and the management of still-born children; with a copious index. The first chapter on natural labour consists of the treatment, with statistics and cases in illustration; concluding with some observations on uterine phlebitis, phlegmasia, dobus, and puerperal mania. We perceive in this chapter much to admire, and the remarks of the authors on the application of the binder are highly important. They state that in two years *only one* case occurred in which the hand was introduced for the extraction of the placenta; and attribute this success, in a great measure, to a proper method of applying the bandage, which is highly probable. Some judicious observations are made respecting the guarding of the perinæum by counter pressure, and the propriety of delay in supporting the perinæum, until the extreme thinness of the part, and the tension of the fourchette, indicate the near approach of labour. Our own opinion is, that interference with the perinæum much increases the liability to mischief, and there is much evidence to prove, that in first labours where no counter-pressure is exercised, mischievous results are comparatively rare. The authors admit the almost total exemption from laceration of females delivered without that assistance, which they endeavour to explain by supposing that females, in the expectation of receiving assistance, endeavour to retard labour until its arrival. Now we believe that no female has such power at command; and as lacerations are equally rare in secret births, when instead of retarding they endeavour to encourage labour, we conceive that this argument does not apply. There may be some reason in the parties not having been unnecessarily subjected to vaginal examinations. Of the treatment after labour the authors observe, "It may be truly affirmed, that there is no occasion on which to exercise unremitting watchfulness in order to secure a patient's safe recovery, as during the first few days after parturition; for in the more dangerous forms of disease which are to be apprehended at this time, the efficacy of the treatment mainly depends on the period at which it is commenced; in other words, on the length of time that has elapsed since the onset of the attack. We do not hesitate to say that attention to this one particular will have more effect in diminishing mortality amongst puerperal women, than almost anything else." In this opinion we cordially agree. Speaking of the treatment of after-pains, their remarks are extremely judicious, though nothing is stated but what is generally known; the following trite observation, however, is worth a passing notice. "To treat after-pains for inflammation is only a trifling error, in comparison with treating inflammation as a case of after-pains; an error involving the life of the patient." The experience of the authors appears to verify the fact, that cases of previous painful menstruation are very subject to after-pains. Of this we are not convinced, either by the authors, or the authorities they quote. We do not deny the

existence of such coincidences, but we see no reason to consider them as consequent and necessary sequelæ to painful menstruation. The authors do not encourage the early placing of the child to the breast after delivery. For our own part we never witnessed any bad consequences arising from it, or that it increased sore nipples and other mischiefs. Tumid and painful breasts are recommended to be rubbed with warm oil, with doses of antim: tart: internally. We think an emollient fomentation is extremely beneficial, but do not approve of friction in any shape, as we conceive no good can arise from it, and that it endangers an increase of the evil. Indeed we would neither rub a tumid painful breast, nor allow it to hang by its own weight. Tinct. catechu and tannin solution are recommended for sore nipples; or a lotion of sub-borate of soda, creta, and aqua rosæ, alternately, with an ointment containing the balsam of Peru. The treatment of mammary abscess deserves particular perusal, and the directions given are plain and efficacious.

The natural cases in the 6,634 labours were 5,852, of which 1,752 were first labours. The natural cases are thus divided into four classes—

First class,—3882 were delivered under six hours, 716 primiparæ.  
 2nd class,—1398 „ „ from 6 to 12 „ 640 „  
 3rd class,— 426 „ „ „ 12 „ 18 „ 283 „  
 4th class,— 146 „ „ „ 18 „ 24 „ 113 „

CLASS.	FACE PRESENTATION.	FACE AND PUBIS.	HEAD AND HAND.
1	4	9	3
2	6	3	3
3	3	2	2
4	1	1	0
Total.....	14	15	8

It is impossible to render justice to this valuable work in one notice, we shall, therefore, return to it in our succeeding number with pleasure, and endeavour to extract additional useful information from its comprehensive pages. We congratulate the authors upon the successful accomplishment of their undertaking, and we feel certain that the profession will properly appreciate the immense mass of information their industry and research have been the means of submitting to them.

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ON THE AIMS AND PHILOSOPHIC METHOD OF PATHOLOGICAL RESEARCH.—AN INAUGURAL ADDRESS, DELIVERED AT ST. THOMAS'S HOSPITAL. BY JOHN SIMON, F.R.S., FORMERLY OF KING'S COLLEGE, LONDON. HENRY RENSHAW, 356, STRAND; H. BAILLIER, 219, REGENT STREET; PELHAM RICHARDSON, 23, CORNHILL. PP. 52 8vo.

ABSTRACT.—This address was delivered by the author at the request of the Governors of St. Thomas's Hospital, who desired him to make a few remarks



introductory to his teaching, and explanatory of the general science of pathology. He tests the present state of pathology by the light of those principles of universal philosophy which have guided the sister sciences to earlier maturity, and considers its present condition under the following heads:— (1.) Interpretation of Phenomena. (2.) Doctrines of Causes. (3.) Principles of Classification. The first he describes as a process of analogical interpretation, and a proper application and understanding of physiological formula; and refers to the possibility of its wrong employment, and the difficulty of correct analysis. The doctrine of causes is next considered, and the author examines how far we possess that privileged understanding of them, which can alone afford tranquility and confidence to practice. Classification of facts he considers by no means the chief object of pathological study, but furnishing a very good measure of the success with which the other objects are pursued; the true principles of correct classification are fully stated.

In conclusion, with the desire of creating zeal and industry in his pupils, he dwells upon the transcendent interest and importance of pathology; and the relief and satisfaction arising from a philosophical enquiry proving the certainty of disease and degeneracy constituting no dark and insoluble problem; he states that pathology is the scientific foundation of medicine, and that professional success is exactly commensurate with pathological acquirements; and instances the extensive field open for enquiry, promising to industry and persevering research the most important and beneficial results, and ensuring to the enquirer certain eminence in his profession.

EDITORIAL COMMENT.—The vital importance of pathological enquiry, and its immense influence upon medical science, induces us to hail, with no small pleasure, the publication of the inaugural address of Mr. Simon, upon his accession to the pathological chair of St. Thomas's Hospital. The abstract given above conveys a just idea of the contents of the address, and the manner in which the author treats his subject. Mr. Simon is already well known to the profession through his elaborate "Essay on the Thymus Gland"; a work of great merit, which, although it may not decide the question at issue, is undoubtedly the best extant on the subject. We had occasion, in our last Retrospect, to speak somewhat severely of the greater part of the proceedings of pathological societies in general, for allowing a large number of pathological demonstrations to take place, without any previous history of symptoms whilst living. We consider this to be the most important part of pathological enquiry; so much so, that a mere exhibition of morbid parts is absolutely valueless, unless accompanied with previous history, and only tends to encumber the journal reporting it, without affording profit to the reader. There can be no true science of pathology, except under one view, viz., symptoms whilst living, accounted for and compared with, the morbid appearances after death. No subject can be of higher importance, either to the student or the practical man, than pathological research; in order, therefore, to study it properly and thoroughly, we must not limit our enquiries to one branch only; but we must combine the past with the present, in order to improve the future. Mr. Simon is eminently qualified to discharge the duties of his appointment; we could have wished, however, that he had mentioned the importance of the previous history of symptoms, and laid stress upon it.

With this exception, Mr. Simon's address is a beautiful composition, and embraces enquiries of the highest interest. We fully agree with him, that the field presented for cultivation and enquiry is most extensive, and hitherto but little has been accomplished; it is, indeed, almost a new and untrodden path, affording every prospect of most valuable and important discoveries to enterprising and persevering minds. We anticipate great results from Mr. Simon's teaching, and believe that under his able guidance many will study pathology with honour to themselves and profit to the profession. But, on the contrary, if this study is carelessly pursued, it will only tend to increase those mazes of obscurity, which are already much too numerous.

#### OBSTETRIC RETROSPECT FOR JANUARY, 1848.

Chloroform still occupies the attention of the medical profession, and many exhibitions are reported with various success. A fatal case, arising from its application, has occurred at Newcastle; but no blame, apparently, is to be attached to the administrators. The cases of the month offer a complete justification of our previous remarks upon this powerful agent; particularly those relative to its indiscriminate adoption, and the danger where disease of the lungs exists. The Bavarian Government has forbidden its general application, and placed restrictions upon its sale.

PRACTICAL LABOUR—SPONTANEOUS EVOLUTION.—Mr. Edwards, in the *Lancet*, Jan. 8th, records a case of foetal evolution in the pelvis. He states that the arm was withdrawn, and the breech forced down in lieu of it. (We think there is some mistake as to the withdrawal of the arm, such an event being denied by some of the best writers on the subject, if forced down *clavicle under pubis*. If not, the evolution would scarcely be deemed pelvic.—Ed.)

PLACENTA PRÆVIA.—Dr. Waller, (*Med. Times*, Jan. 7th to the 29th,) gives the result of thirty-three cases, and arrives at the following conclusions. Twenty-three mothers recovered; but this fatality is not to be attributed entirely to the old practice, as death in three of the cases was caused by culpable neglect. It must, however, be acknowledged, even allowing this fact, that the number of maternal deaths is very great by the old method, therefore any attempt to improve the existing practice should be received with all respect, and fairly tested before an adverse opinion is given. Upon cessation of hæmorrhage, on the removal of the placenta, so strongly advocated by Professor Simpson, Dr. Waller remarks, that in six of his cases the hæmorrhage entirely ceased upon its removal; but in one, the child was dead and the vessels closed, consequently this cannot be included. Dr. W. is of opinion that when flooding occurs from a partial separation of the placenta, the complete separation will be followed by a total cessation of hæmorrhage; and does not agree with Dr. Simpson, that the hæmorrhage entirely proceeds from the placental sinuses, although blood will undoubtedly escape until coagula be formed. He imagines it proceeds from the long and slender utero-placental arteries, and partially from the placental cavities, and that the true cause of the arrest is the contraction of that organ.\* He is not inclined to discard the old operation of turning, and adhere *entirely* to the new; but would rather consider the new

\* The views promulgated by Dr. W. are more strictly in accordance with Dr. Radford's.

as a valuable addition, thinking it will never entirely supersede delivery by turning. The mortality attendant upon the old mode of treatment, more frequently arises from delay in its adoption, than from any defect in the method.

DR. CHOWNE, in the *Lancet* of Jan. 15th and 22nd, objects to the source of hæmorrhage, in placental partial separation, as laid down by Dr. Radford, which has already been noticed in the medical journals.—Another case of placenta prævia is also recorded in the *Lancet* of Jan. 29th, by Mr. Martin, in which, after complete separation of the placenta, hæmorrhage ceased.

DISEASES OF WOMEN—RETRO-FLEXION.—Mr. Hensley read a long paper on this subject, before the Medical Society, King's College, London, which is reported at length in the *Pro. Med. and Surg. Journal*, Jan. 12th. It is an able paper, but we do not perceive that he has advanced anything particularly new; but we shall again notice it upon completion.

FISSURA ANI.—In the *Nieuw. Archief*, 11. 2, a case of this description is related by Dr. I. Van Deen, which succeeded parturition, and which was cured without incision.

ENTROCELE THROUGH THE FUNDS UTERI.—M. Le Chaptot, in the *Gaz. Med.* December, 1847, relates a curious case of this nature, in which he succeeded in returning the intestines through the rent, and retaining them in position by sponge. The patient recovered to the third month, but died then of peripneumonia.

ORGANIC STERILITY.—Dr. Rigby, in the *Medical Times*, Jan. 22nd, records some cases of organic sterility, in which the os and cervix uteri were well formed, but so contracted (rather contradictory) as to prevent conception. The proposed method of treatment is apparently judicious, but so extremely complicated, that a mere extract cannot afford a proper idea of it.

VOMITING DURING PREGNANCY.—Dr. Fleetwood Churchill, in an extremely valuable paper, read before the Dublin Obstetrical Society, and published in the 1st and 2nd numbers of THE BRITISH RECORD, (January 1st and February 1st,) illustrates this important subject by recording two elaborate and well treated cases, and shews the necessity of the induction of premature labour in instances of extreme necessity.\*

ELONGATION OF THE CERVIX UTERI.—In No. 1 of THE BRITISH RECORD, Dr. I. M. Coley gives a case of extraordinary elongation of the cervix uteri, in which excision of the anterior portion was successfully performed. The case recovered.

POLYPUS UTERI.—Dr. Mitchell, in No. 1 of THE BRITISH RECORD, relates a case of polypus uteri, in which the ligature was nine days in cutting through the pedicle. The case ultimately recovered.

IMPERFORATE VAGINA.—Dr. Ogden, in No. 1. of THE BRITISH RECORD, records a very curious and interesting case of this nature, being connected with subsequent pregnancy and difficulty of labour, requiring assistance by the knife.

FLEXIONS, TORSIONS, AND MALPOSITIONS OF THE UTERUS.—Dr. Protheroe Smith, in a very excellent paper in the 1st and 2nd No.'s of THE BRITISH RECORD, proves these affections to be much more frequent than is generally

\* The reader may obtain further information upon this interesting subject by referring to the work of M. Chailly, entitled "*Traite Pratique de l'Art des Accouchemens*."—Ed. 1845. P. 144. Ed.

supposed, and offers some very valuable observations on the subject. We shall return to this paper when it is completed.

**INTERNAL HÆMORRHAGE.**—Dr. A. Tyler, of Dublin, in the 2nd No. of *THE BRITISH RECORD*, relates two cases, the results of which are of serious significance to the medical profession. The one, by prompt and judicious treatment, recovered; the other, owing to delay and comparative neglect, was fatal.

**CONGENITAL FISTULE.**—We think it highly proper to direct the particular attention of our readers to the Monographs by Dzondi and Ascherson upon this important subject, which have appeared in the monographic portion of *THE BRITISH RECORD*. Although of vital importance in a physiological point of view, this subject has never (as far as our knowledge extends) hitherto been treated upon by any English medical writers; and we have been thanked by one of our esteemed correspondents, for enabling him to detect this disease in one of his patients, and to prescribe the requisite treatment, by means of the publication of the monographs alluded to.

**DISEASES OF CHILDREN—CONVULSIONS CAUSED BY TAPE WORM.**—In the *Dublin Medical Press*, January 5th, 1848, a case is recorded, in the treatment of which great importance is attached to large doses of *Ol. Terebinth*; the author first giving doses of twenty drops, and afterwards three drachms. (Surely he is not serious in pronouncing either of these large doses! It is well known that small doses are not only inefficient, but mischievous in other respects. In the case above alluded to, *æt.* 14, we should have administered from four to six drachms; to adults, from 1 to 1½ ounce.—ED.)

**ICTERUS OF NEWLY-BORN CHILDREN.**—Dr. Hervieux considers that this affection differs from all other species of jaundice, in not arising from any obstruction of the biliary ducts of a permanent character, but simply from a temporary disturbance of the liver's function rapidly tinging the skin. Dr. H. deprecates treatment in such cases, and states that they may be left with perfect safety to nature.

**ENLARGEMENT OF THE THYMUS GLAND.**—Dr. Ward, in the *Provincial Medical and Surgical Journal*, January 12th, details at considerable length a case of sudden death in a child of seventeen months old. (We cannot decide on the primary affection on account of the ambiguity of the symptoms; though it was probably scarlatina, in which the eruption was suddenly repressed. After death the thymus gland was greatly enlarged.—ED.)

**CROUP.**—Dr. C. West, in the *Medical Gazette* of January 14th, gives an admirable lecture on this disease, embracing its causes, post-mortem appearances, symptoms, duration, prognosis, and treatment. This is the best article on croup which has arrested our attention for many years, and, as any attempt to abridge would greatly injure it, we can only recommend its perusal in the well-conducted journal in which the article appears.

**DROPSY AFTER SCARLATINA.**—Mr. Gosse, in the *Medical Gazette*, January 14, on this subject remarks the great similarity existing between scarlatinal dropsy and morbus Brightii, and the apparent identity of their causes, as far as the functional derangement of the skin is concerned. He states that scarlatina is frequently alluded to as laying the foundation of albuminuria; and that in such cases, upon a post-mortem examination, the appearances exactly resembled those attending renal anasarca, viz., a mottled and contracted

kidney. Whether the function of the kidney is suspended by congestion of the vessels, or the presence of an adventitious deposit, the immediate effect is the same; but as one is permanent, and the other may be only temporary, an important distinction is thus created between the two conditions. That the analogy exists in the early stages I think highly probable, and at this period I consider them capable of remedy. If this pathological view be correct, the indications of treatment are plain and simple; to relieve the congested state of the kidneys, to carry off the superfluous fluid, and to restore a free and healthy action to the skin. To effect our first object, local depletion, by cupping or leeches to the loins; to obtain the second, through the medium of the mucous membrane of the intestinal canal, the administration of hydragogue cathartics; whilst to promote a free action of the skin, warm baths are beneficial, assisted by small and frequent doses of tartar emetic, which possesses the double advantage of promoting perspiration and aiding depletion, by lessening the force of the heart's action. Diuretics are to be avoided, as tending to aggravate the evil. When active disease has ceased in the kidneys, which will be indicated by the appearance of the urine, or even before all traces of albumen have ceased, tonics are very beneficial, particularly the *haust. ferri sesquichl.* Confinement to bed and flannel clothing indispensable.

DIPHTHERITE, IN WHICH TRACHEOTOMY WAS PERFORMED.—Dr. J. M. Coley, in *THE BRITISH RECORD*, No. 2, relates a case of the above, which was attended with a fatal issue. The method of treatment was correct and decisive, and the result beyond the control of the talented gentleman operating.

PHYSIOLOGY AND PATHOLOGY.—RUPTURE OF THE UTERUS BEFORE LABOUR.—(*Vide our Retrospect, Jan. 15.*) We entirely differ with Mr. Brownbill on this case. The labour commenced on the evening before the 20th, on which day the crack, or giving way was experienced. How he failed to detect rupture until the post mortem examination, we cannot conceive; every symptom detailed having indicated rupture; and had he been familiar with the writings of Crantz, we think he would have drawn more correct conclusions. The remarks of that acute observer are strictly applicable to the case of Mr. B. We shall shortly produce a translation of this author, which we recommend to his particular attention, being fully satisfied that its study and perusal will enable him to form a more correct diagnosis for the future.

MENSTRUAL BLOOD.—In *Schmidt's Jahrb.*, 1847, No. 7, page 139, the common opinion that menstrual blood possesses no fibrine, and therefore does not coagulate, is fully disproved; blood having been found coagulated on the mucous membrane of the uterus, in cases of sudden death during menstruation. It is true such blood does not easily coagulate after it is discharged, because it had previously coagulated, more or less, and therefore cannot so again. (We scarcely think that there is any practitioner who has not observed menorrhagic females that have parted with large clots of blood during menstruation; undoubted coagula, and caused by the fibrine menstrual blood must of necessity contain, though perhaps in less proportion than that of the system generally.—Ed.)

PHILOSOPHY OF THE PELVIS.—We consider it a duty we owe to the profession, to direct their attention to the remarkable Monograph by Fischer, now appearing in "*THE BRITISH RECORD.*" The vast amount of knowledge it displays, on a subject so important and yet so little understood, is truly surprising, and will fully repay for the most attentive perusal.

**RETROSPECT.**—Most of the journals devoted to medical science are (with the exception of our own), for this month extremely deficient in articles of obstetrics. **CHLOROFORM** still occupies a most prominent position, and appears to be advancing in general estimation. Since our last observations on this subject, we have had occasion to visit Edinburgh, and there witnessed its extensive exhibition in various cases occurring in the practice of our energetic friend, Professor Simpson. We consider it a duty incumbent upon us, to confess that these exhibitions have produced a more favourable impression, as to its advantages, than that which we previously entertained, and we have much pleasure in affording this opinion in its favour. The chloroform of Edinburgh most undoubtedly differs much from that generally employed in England; for which difference several weighty reasons can be assigned. First, the price of the spirit from which it is manufactured in England, will always oppose the production of a good preparation, except at an enormous price: and this has occasioned the application of inferior preparations, and accounts for the frequent failures. In many instances no effect has been produced; in others, a long and harassing exhibition has been required; and in others symptoms of an alarming character have ensued. We must confess our surprise at the difference of the preparation, which is immediately detected both by the taste and smell; and we state our firm conviction, that in all exhibitions of this agent, it is advisable to use an Edinburgh production in preference to the English, as in the former place, the original cost of the material, allows the manufacture of good chloroform at a reasonable price. During our stay in the Scotch metropolis we witnessed a large number of experiments with chloroform, in a variety of cases, some of them being of the most serious character, and we cannot but acknowledge that the results were most satisfactory; indeed we are convinced, that when administered by competent persons, this agent is of extreme value, and may be pronounced one of the greatest discoveries of modern days, of whose powerful assistance we shall frequently avail ourselves of for the future. Still we continue to condemn its indiscriminate adoption and non-professional application, and repeat the necessity of entrusting the exhibitions to those capable of exercising proper superintendence and control; we also strongly enforce the paramount importance of employing the very best preparation that can be obtained.

**PRACTICAL LABOUR—MESMERIC BIRTH.**—In the *Med. Gaz.*, Feb. 4th, there appears a paragraph taken from the *Times*, recording an instance of "mesmeric birth." As the editor properly observes, "doubts formerly existed as to the possibility of unconscious birth, but now we have three kinds—the ethereal, the chloroformic, and the mesmeric." What is to be the fourth yet remains involved in obscurity; but doubtless in these days of philanthropic discoveries, some new theory will speedily be promulgated, which will at once eclipse all previous "inventions," and for ever obliterate all remembrance of them by its superior brilliancy and the benefits of its application.

**ON THE USE OF FORCEPS IN MIDWIFERY.**—In the *Med. Gazette*, of Feb. 4th, there appears a communication signed "Candidus," relative to a statement previously made by Mr. Wilton, of Brighton, to the effect that he had, in the course of six weeks, experienced three cases of labour requiring the assistance of the forceps. Candidus compares this fact with the statement of

Sir Richard Manningham, in reference to his experience in instrumental labours, and from thence infers that either the forceps are more frequently applied than formerly, or that cases requiring their assistance have become of more frequent occurrence. He adduces a quotation from Manningham in support of his opinion, and conceives that Mr. Wilton would benefit the profession by stating his instrumental labours statistically.

SECALE CORNUTUM.—In the *Med. Gaz.* of Feb. 18th, an instance is related of the delivery of twins under the administration of Secale Cornutum and Chloroform. The female was a primipara, 40 years of age, and the expulsive efforts not being sufficiently strong, Secale Cornutum was administered; when its effect became obvious in increased parturient efforts, the chloroform was exhibited, and the patient was safely delivered of twins, without being, at the time, aware of the circumstance. The effects of the two agents, thus combined, in promoting the involuntary action of the uterus, are represented to have been very striking, and both mother and children are progressing favourably.

DISEASES OF WOMEN—PLACENTAL HÆMORRHAGE.—Dr. Chowne, in the *Lancet* of February 5th, continues his paper on the source of hæmorrhage in partial separation of the placenta, which in the present Number is confined to the proof of the non-rapidity of the cellular circulation. When this paper is complete, we shall probably return to its consideration, as many observations appear which require particular notice.

INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES.—In the *Lancet*, Feb. 5th, appears a paper read by Dr. Bennet, at the *Royal Med. Chirurg. Society*, on the inflammation and abscess of the ovaries, fallopian tubes, and cellular tissue. He states that whilst the subject of pelvic abscess, considered generally, has been much studied by French pathologists, in our own country it has received comparatively little attention; and he also points out what he conceives to be an error—viz., its being considered characteristic of the puerperal state, and as seldom occurring under other circumstances. After describing the disease in question, he briefly alludes to the treatment, which, he observes, must be merely that of phlegmonous inflammation, carried out in accordance with the laws of therapeutics. Mr. Acton had frequently observed these affections, and made some interesting observations upon their origin and treatment. Dr. Bennet made some valuable remarks upon the evils arising from the want of proper investigation in cases of uterine disease, consequent upon a feeling of false delicacy on the part of the patient, and narrated a case in which much suffering might have been avoided, had the necessary examination been thoroughly effected.

UTERINE HÆMORRHAGE AFTER DELIVERY.—In the *Lancet* of Feb. 12th, Mr. John Taylor relates an instance of the salutary effects of cold water injection in uterine hæmorrhage after delivery. The patient appeared to be fast sinking, and unless means were adopted to ensure permanent contraction of the uterus, her death appeared inevitable. No ergot being at hand, four ounces of cold water were forcibly injected, and the effect was magical; a second injection of the same quantity ensured a permanent contraction with slight pains, and the hæmorrhage ceased.

OVARIAN DROPSY TREATED BY PRESSURE.—Mr. J. B. Brown, in the *Lancet*

of Feb. 18th, in reference to some remarks questioning the sufficiency of the cases adduced by him in support of this method of treatment, and to prove the injurious effects of mercury in some cases, records an instance of a young lady, who, having been twice tapped by him for ovarian dropsy, consulted another medical man, who applied a strong mercurial ointment over the whole surface of the abdomen, which became covered with sloughs, and she expired in a few days.

**ATONIC PARAPLEGIA.**—A most extraordinary case of this description is related in the *Lancet* of Feb. 12th and 19th, but is too long for notice here. The patient appears to have recovered under the treatment resorted to.

**ORGANIC STERILITY.**—A case of organic sterility, which from the small os and taper cervix uteri, may be termed congenital, though much aggravated by inflammation, is recorded by Dr. Rigby in the *Med. Times*, Feb. 12th. The anterior wall of the cervix was divided, and the patient now believes herself pregnant.

**PARTIAL AMAUROSIS WITH PREGNANCY.**—In a notice of Dr. Lever's, in Guy's Hospital Reports, appearing in the *Dublin Med. Press*, Feb. 18th, a case of partial amaurosis, with pregnancy, is mentioned, in which the sight of the patient was seriously affected. After her delivery, by proper and judicious treatment, her sight was perfectly restored. Other nervous affections complicating pregnancy are also enumerated, and some very valuable practical results are deduced from the cases detailed. A case of amaurosis during parturition, communicated by Dr. Ringland, also appears in the *Dublin Med. Press*, Feb. 9th, in which total blindness ensued, but which disappeared under proper treatment.

**DISEASES OF CHILDREN—HOOPING COUGH.**—In a lecture, appearing in the *Med. Gazette*, Feb. 4th and 25th, by Dr. C. West, some valuable observations on the nature and treatment of this troublesome complaint are afforded. We cannot, in our limited space, offer sufficient to our readers to render justice to the original, so we are compelled to refer them to the original, which has our cordial approval. The statistical table, shewing the immediate cause of death in twenty-four cases, is of considerable value.

**LITHOTOMY.**—In the course of some clinical remarks on a case of stone in a child four years of age, at the Hospital des Enfants, M. Gueisant referred to the success attending the operations for stone in children by lithotomy and lithotritry. Both were equally successful, but lithotomy was preferred when the stone was large, lithotritry when it was small.—*Lancet*, Feb. 12.

**IDIOPATHIC TETANUS.**—In the *Lancet* of Feb. 19th, Mr. Cary relates a case in which the exhibition of chloroform was entirely successful after the ordinary remedies had completely failed.

**PHYSIOLOGY AND PATHOLOGY—CYSTIC TUMOURS.**—At the *London Pathol. Society*, February 7th, Mr. C. Hawkins exhibited specimens of Cystic Tumours, the first of which was removed from the breast of a female, aged 47 years, having been in existence four years, and grown rapidly the last. It was of the size of a melon, covered with dark-coloured skin, elastic, with but little feeling of fluid, and without any large gland to excite a suspicion of its being anything but a cystic tumour of this kind. The section showed that it was almost solid, with some cysts, into which projected masses of yellow lymph. The patient was doing well, and no fear was anticipated of any return of the



morbid growth. The next specimen, also removed from the breast, Mr. Hawkins believed was an example of the "*tuberous cystic tumour of the serous cyst*;" it was as large as a child's head, of seven year's growth, and similar in colour to the last. The feeling of fluid being very apparent, the tumour was punctured with a grooved needle, upon which six ounces of serum escaped, the whole was removed. The cyst contained about a pint and a half of reddish brown serous fluid, and about three inches from the nipple was a small mass of tubera of a firm fibrous texture. Another preparation showed a good example of tubera from the serous membrane of an ovarian cyst, and was a portion of a tumour removed from a lady whom Mr. Hawkins had several times tapped for dropsy, and in whom innumerable tubera were quickly formed, so as to offer serious difficulties to the completion of the operation. Another preparation was removed from the labium of a young female, by Mr. Cutler, which had the feeling of a fibrous tumour, but which proved to contain some thickish fluid in a cyst; other appearances placed beyond doubt that it had been one of the follicular cysts often found there, with an admixture of solid growths into its cavity. Mr. Hawkins thought that a series shewing the disposition, organization, &c., of the various encysted Tumours was well worthy of serious consideration. \*

**ACUTE TUBERCULIZATION OF THE RIGHT LUNG.**—At the *Manchester Pathological Society*, February 20th, Dr. Reid exhibited a specimen of this disease, which terminated fatally in thirty-five days. This case presented some curious peculiarities, and altogether was worthy of the lengthened report it appears to have received.—*Medical Gazette*, Feb. 25th.

**SCHIRROUS PYLORUS.**—Mr. Whitehead, at the *Manchester Patholog. Society*, February 20th, produced the stomach and the duodenum of a woman, aged 36 years, who had sunk from anæmia, consequent upon daily vomiting. The ring of the pylorus was in a state of schirroid hypertrophy, the orifice being greatly reduced. The mucous membrane of the right extremity of the stomach, together with the subjacent muscular tunic, exhibited the usual appearance of incipient carcinomatous degeneration. The patient had undergone three miscarriages at about the middle period of utero-gestation. After one of these the uterus was very low down in the vagina, the cervix greatly hypertrophied, and the labia occupied by a granulating surface. After another, the bearing down amounted to a complete procidentia; and after the third, profuse hæmorrhage and peritonitis ensued, from the effects of which she never recovered. At this period the vomiting commenced, and ceased only a few days previous to her dissolution.—*Med. Gaz.*, Feb. 25.

**RARE CASE IN MIDWIFERY.**—Dr. Oldham, in the *Dublin Med. Press*, under this title relates a case in which the full period of gestation was completed, but instead of parturition setting in, the uterus remains passive. The foetus then dies, decomposition ensues, the anterior wall of the uterus ulcerates, and portions of the fetal bones having escaped into the peritoneal cavity, seek an egress through the bladder; and the patient sinks before the process is accomplished.—*Vide Guy's Hospital Reports*.

**RUPTURE OF THE FALLOPIAN TUBE.**—At the *Birmingham Pathological Society*, reported in the *Prov. Med. and Surg. Journal*, Feb. 23, Mr. Russel presented a case of Rupture of the Fallopian Tube, in a young lady aged 26. The *sectio cadaveris* proved the left fallopian tube to be ruptured.

CONTINUATION OF EDITORIAL COMMENTS ON PRACTICAL  
OBSERVATIONS ON MIDWIFERY—By Drs. M'CLINTOCK AND  
HARDY, DUBLIN.

(Continued from page 23.)

We have much pleasure in resuming our remarks on this excellent work, but are compelled to confine ourselves to a selection of points for consideration.

On the use of ergot of rye in tedious labours some valuable observations are offered, and the authors consider the subject under the following heads—1st, when delay occurs in the second stage, arising solely from inert uterine action. These cases of "arrest" are stated to be the most favourable for the exhibition of ergot, as at any moment after its administration, delivery can be effected by the vectis, or forceps, should such become necessary in order to save the child. Except in these cases the ergot is administered with extreme reluctance; for the *authors' experience* proves that unless delivery be effected within a certain time after the exhibition of the secale, the child will undoubtedly perish. Dr. Johnson, of the same hospital, observes "when ergot is given it brings matters to a crisis, for if not delivered within a certain time, the child, in all probability, will be destroyed." The requisite time is not specified, as it varies under different circumstances, and can only be ascertained by careful observation with the stethoscope. Dr. Beatty mentions two hours,—Dr. Hardy has recorded fatal cases after twenty, and twenty-five minutes only have elapsed. With respect to the changes produced in the foetal pulse after ergot, the observations of the authors have led to the practical inference—that the reduction of pulsations below 110, being at the same time intermittent, generally indicates the death of the child, although its delivery should be speedily effected; but that this depression, without intermission, would not justify such apprehension. The careful and frequent use of the stethoscope after the exhibition of ergot is strongly inculcated, and the greatest importance is attached to auscultation generally. The 2nd includes those cases, in which the foetal head, without any discoverable pelvic deformity, becomes arrested in the brim of the pelvis. Under these circumstances, if the foetal heart were at all audible, the ergot was administered in the hope of bringing the head within reach of the forceps; though it was exhibited with extreme reluctance, the accession of bad symptoms alone prompting its employment. The 3rd includes those cases in which unfavourable symptoms calling for delivery, manifested themselves whilst the foetal heart was still audible, but where the use of the forceps or vectis was inadmissible. From the known influence of ergot upon the child, it was never given in these cases until the powers of nature had been fully tried, and until it became obvious that the preservation of the mother's life peremptorily demanded assistance.\* Some useful observations on the quantity administered, and the method of its exhibition, are here offered; also upon the nature of its influence, and the

\* In all probability the mischief was already effected on the child, and is not to be attributed to ergot; as proved by the tables of Professor Simpson.

length of time required to produce the desired effect.\* Ergot of rye is also recommended as a preventive of post partum hæmorrhage, its administration being pronounced both safe and efficient. Three periods are named for its exhibition: viz.—when the head of the child is on the perinæum, and about to be expelled; immediately after the head has cleared the os externum, and before the shoulders have passed; and lastly, as soon as the insertion of the cord into the placenta can be felt. Dr. Johnson, who introduced the practice into the hospital, generally gives the ergot according to the mode last recommended. Attention is very properly directed to the quality of the ergot administered, few medicines so readily spoiling, or possessing such variable qualities; these circumstances tend to reconcile conflicting opinions entertained respecting its properties and doses.

In the treatment of secondary hæmorrhage, in connection with other remedies, ergot of rye has been frequently tried, and found to be a valuable remedy. It was usually administered in six grain doses, three times a day; but where the discharge was profuse, fifteen or twenty grains were exhibited at once. In retained placenta it was the invariable practice in the hospital (only deviated from in certain cases of abortion), *never to exhibit this medicine in the third stage of labour*, until the placenta had come away, or was completely detached, and lying at the os uteri or in the vagina. The reason for this, is the difficulty of diagnosing, in each instance, the precise cause of the retention; as, was the retention owing to an abnormal adherence, this medicine would only aggravate the circumstances of the case. In twin cases, if good uterine action did not ensue within forty minutes or an hour after the rupture of the membranes, and stimulating injections up the rectum, with friction, failed in producing it, ergot of rye was administered with favourable results. In funis presentations, when reduction was found impracticable, and the funis pulsations did not indicate the necessity of haste, it was deemed advisable, before resorting to instrumental interference, to endeavour to stimulate the action of the uterus by the administration of this medicine. The authors have carefully noted these instances of the benefits arising from the exhibition of ergot, and numerous cases are advanced in support of their several recommendations. The method of preparation and mode of exhibition practised in the hospital are as follows,—half a drachm of the fresh powder of ergot was infused in half a small cupful of boiling water for ten or fifteen minutes, when it was strained;

\* We were among the first to introduce the ergot into British practice, and recorded cases of its efficacy as early as the year 1823; since which period we have had the most extensive experience of its use. We feel pretty confident that its effects upon the child have been greatly exaggerated; in fact we are of opinion that *directly it is not the cause of the death of the fœtus*, but that long-continued pelvic and uterine pressure in cases where ergot has been exhibited, is the immediate cause; and that it must not be attributed, as some have supposed, to any deleterious principle in the ergot itself. The preparation which we have always administered, and which is infinitely superior to any other formula, is as follows.—Four scruples of ergot to eight ounces of water, boiled down to four ounces with ten grains of borate of soda; one half to be given, and the other to be administered in twenty minutes if the first dose is not sufficiently effective; if the second dose is unsuccessful, it is not advisable to exhibit a third. Ergot is extremely perishable, and no specimen should be used which is more than a year old. All spirituous preparations of it are useless, and we strongly object to its being administered in substance.—*Vide Papers, by ourselves, on the Ergot, in the Med. Times*, 1842.—ED.

to the strained infusion were added ten or fifteen grains more of the powder with some sugar to make it palatable; this constituted the ordinary dose, and it was repeated in twenty five minutes, if deemed requisite; a third dose was seldom administered. The other preparations, viz.—the extract, tincture, ethereal tincture, &c., did not answer as well as the powder. (Vide *British Record*, No. 1, page 40, Y. Z.)

The authors devote a considerable portion of their work to the various applications of auscultation, and attach much importance to its aid, as forming an useful auxiliary diagnostic where doubts exist as to the nature of the presentation, &c.

Its various uses in breech and arm presentations, in cases of hæmorrhage before delivery, in convulsions, &c., are fully enlarged upon, and much valuable information is afforded as to its efficacy as a source of diagnostic information in doubtful cases of ruptured uterus. The authors state that in two or three instances, symptoms of an alarming character and strongly indicative of uterine rupture, occurred during labour; but in each of these the persistence of the fetal cardiac sounds led to the conclusion that laceration had not taken place; which diagnosis was subsequently proved to be correct. Of its utility in twin cases, it is observed that it is not sufficient evidence to detect fetal pulsations at two different parts of the abdomen, but if there is a *want of synchronism in the beats, as heard at the two points*, experience teaches that the evidence is conclusive. With regard to its value in cases of still-born children in connection with artificial respiration, the authors assert that the most accurate information is to be derived from the stethoscopic examination of the heart, for they have witnessed many instances of the resuscitation of still-born children, in which the cardiac pulsations, *as detected by mediate auscultation*, had been the only proof of lingering vitality.

The important subject of hæmorrhage is fully considered, and separate notices given to the prevention of it, and to secondary hæmorrhage. It is much to be regretted that these subjects have not been enlarged upon in the standard works on midwifery, in a manner commensurate with their importance, and we congratulate our authors upon having supplied a desideratum long existing in obstetric literature.\* Its various forms are fully noticed, and we cordially recommend this portion of the work to the most attentive perusal of the profession. The preventive treatment of those who evinced a disposition to flooding after delivery, in addition to the conditional use of ergot, was the use of means calculated to ensure a tranquil circulation during delivery, and judicious management of the second stage of labour. The great influence which the management of this stage of labour exercises upon the occurrence of hæmorrhage, is well understood, and the remarks afforded are both judicious and valuable. On the subject of hæmorrhage between the birth of the child and the expulsion of the placenta, it is stated that the first object is to grasp the uterus with the hand, and then ascertain, by careful examination, whether the insertion of the cord was within reach or not, as this materially affects the danger of the case. Having placed the hand on the fundus uteri, friction and

\* Perhaps the Authors will excuse our reference to the excellent Essay now publishing in in the *British Record*, on this vitally important subject, by Wm. Newnham, Esq., of Farnham.—Ed.

slight pressure are to be adopted, and if the contraction thereby induced be not sufficient to repress the hæmorrhage, it will be necessary to expel the placenta from the cavity of the uterus. If the uterus have fallen from its natural position, it must be raised previous to compression being commenced; and success will be increased by the performance of manipulation during the presence of uterine action. Hæmorrhage after the delivery of the placenta, is treated by promoting the contraction of the uterus, and by sustaining the powers of life by suitable stimuli. For the accomplishment of the first, friction and pressure over the uterus—the application of cold—the exhibition of *secale cornutum*—the use of electro-magnetism—and the introduction of the hand into the uterine cavity are the means employed; and upon each of these observations are offered, suggested by the hospital experience of our authors.

Upon the application of cold, as the means of exciting uterine action, the writers agree with Dr. Lee, that the dipping a napkin or towel in the coldest water that can be procured, and, as the woman lies on her side, dashing it suddenly against the pudenda, nates, and sacrum, is preferable to pouring water from a height upon the naked abdomen. At the time the dash is used, firm pressure is to be made over the uterus with the hand, previously immersed in cold water. Iced water at the commencement of the attack, given internally, is also mentioned as of occasional service. Although cold is strongly recommended for the suppression of hæmorrhage, it produces much harm if persisted in beyond certain limits, and the exercise of great judgment is necessary to prevent injurious consequences. Of the benefits of electricity the authors are not able to speak definitively, as its use has hitherto been limited. To Dr. Radford, of Manchester, is awarded the credit of being the first to test the value of electricity in cases of hæmorrhage arising from the presentation of the placenta; that gentleman considers it of undoubted advantage in producing efficient contractions, and arresting the flow of blood. In the preservation of the animal powers, the treatment is the same as that usually recommended, and therefore does not require lengthened notice.

It is held by the authors, as an inviolable rule, never to abandon a case of hæmorrhage as long as life remains, as their experience proves the frequency of perseverance in restorative means rescuing the patients from the most apparently hopeless condition; and when the vital powers are reduced to a very low ebb, brandy and opium are the two remedies upon which the greatest confidence is placed. Some valuable observations upon the proper time for administration, and the quantity to be given, are here offered, and the authors express their firm conviction of the paramount importance of opium as a remedy in desperate cases of hæmorrhage, “where,” to use the graphic language of a recent writer, “after severe uterine hæmorrhage, the countenance is sunk, the eye hollow and glassy, the lips blanched, the skin cold, and the whole person corpse-like.” In the treatment of secondary hæmorrhage the same care and attention is displayed, but as it is rarely attended with danger, except when it arises from the detention of a portion of the placenta, or from inversion, we shall not so particularly consider the remedies proposed by our authors. Numerous cases in illustration of the respective modes of treatment recommended for the various emergencies are adduced, which materially increase the value of the work, both as an object of study for the pupil, and as a reference for the general practitioner.

To the subject of plural births, the authors appear to have directed considerable time and energy, and the chapter devoted to its consideration contains a large mass of practical information, and much valuable matter which is not to be found in any of the systematic treatises. The authors consider the symptoms usually received as indications of the existence of two fetuses in utero to be fallacious, and depend upon the peculiar pulsation previously alluded to as the surest diagnosis. They also state their never having experienced any exception to the physiological law, that in plural conceptions each fetus has its distinct involucre. The rules of practice adopted in twin cases are briefly detailed, and are calculated to obviate many of the disagreeable symptoms attendant upon them. In the twin cases which have come under the observation of the authors, neither of the placentas have come away until after the birth of the second child, except in one instance; but they state that the placenta of the first child *may* be expelled naturally, and without hæmorrhage, before the birth of the second. But this, although interesting in itself, would never justify any attempts of the practitioner to remove the after-birth of the first child whilst the other fetus was still "in utero."

The authors award much praise to Professor Simpson for his exertions to prove the fallacy of the long-acknowledged opinion, that if twins be of different sexes, the female will prove sterile. The cases and tables included in this chapter are most valuable, and we trust that their benefits will be duly acknowledged.

Upon the use of opium in cases of labour, the authors offer some valuable observations, which, as resulting from actual experience, deserve a more than ordinary attention. The indefinite notions regarding its efficacy, so generally entertained by medical practitioners, are deeply and deservedly lamented, and the authors endeavour to disencumber the subject of much perplexity by describing the different intentions which it is supposed to fulfil. Its value is also considered in after and spurious pains, in threatened and actual rupture of the uterus, &c., and cases are advanced in support of the various administrations: great care is also exercised clearly to define the principles by which its administration should be guided. Uterine phlebitis is also judiciously treated, and the reasons why it possesses such strong claims upon our attentive consideration are fully considered. The authors consider that it has been of late years a very frequent cause of puerperal fever, and confidently assert, that in the majority of patients who die of this complaint, phlebitic inflammation, or its peculiar consequences, are the principal organic lesions discovered after death; its deplorable fatality in parturient women, and the insidious nature of its attacks, are also quoted as reasons for bestowing upon its study the utmost diligence and care. The principal causes or circumstances which determine or predispose the development of puerperal phlebitis are stated to be "mechanical injury of any kind—the detention of a portion of the after-birth, or membranes—hæmorrhage—and epidemic influence." Respecting the latter, it is observed—"that no reasonable doubts can be entertained as to the sufficiency of this cause to call into action morbid derangements, which otherwise would not have taken place;" and some curious cases are recorded in proof of this assertion. The symptoms indicative of the existence of phlebitis are considered very inconclusive, until the advancement to the

second stage; when appearances which denote the admixture of puriform, or septic matter with the sanguineous current are manifested, and which constitute the true pathognomonic symptoms of the disease. For the treatment recommended by the authors for this affection we must refer our readers to the work itself; it is sufficient for us to state that it is judicious throughout, and the result of the most attentive observation. Puerperal mania is also well treated upon, and the remarks upon its nature and treatment possess both originality and value. The arrangement of the cases into three classes, with their relative symptoms, greatly facilitates the comprehension of the treatment proposed; and as, in other instances, cases are adduced as illustrative of the different methods adopted.

Although we have particularly selected the above examples from the numerous subjects treated upon by the authors, yet there are many others equally deserving of attention; we selected these, as we are of opinion, that they are more fully considered than is usually the case in works on midwifery, and that much information is afforded which does not appear in our usual obstetric authorities. We are compelled at last to dismiss this truly excellent work, and we trust that its merits will be fully appreciated by every member of the profession.

It is not often that medical writers possess the numerous advantages placed at the disposal of Drs. M'Clintock and Hardy, and we declare it as our candid opinion, that they have rendered every justice to the opportunities thus afforded them. We must not omit the notice of a great number of valuable tables which are interspersed through the work, and which assist the reader in more effectually comprehending the detail; a very copious and well-arranged index to the whole, is also a most powerful auxiliary. It may be asked why the authors did not give the result of the whole period of Dr. Johnson's mastership; but it must be borne in mind that the work contains all the information collected whilst *they were connected with the establishment* (vide preface). Of course they cannot be held responsible for more, and if the results of the three years given were more favourable than the other four, the greater credit is due to their careful attention and excellent management.

#### OBSTETRIC RETROSPECT FOR MARCH, 1848.

PRACTICAL LABOUR—CHLOROFORM IN MIDWIFERY. — At the *Liverpool Medical Society*, Dr. Newins recorded the results of eighty cases, in all of which the exhibition was highly favourable, no death having occurred which could justly be attributed to the chloroform. One patient had died of puerperal fever three days after the exhibition, and another had died of sloughing of the os uteri and interior of the uterus after the application of the forceps; but Dr. Newins observed that both puerperal fever and erysipelas were very prevalent in the neighbourhood at the time. One suffered from œdema of the epiglottis, but no certainty exists that it arose from the exhibition of the chloroform, though it occurred twenty-four hours after the application. One patient raved violently after the administration, but had previously been much excited by the people about her. And lastly, one experienced

convulsions ten hours after the application. The general results were, that the labours occupied the usual period—less fatigue and exhaustion were endured, and the recoveries were unusually rapid—the after pains, in most cases, were less distressing—and when the vagina was hot, dry, and swollen, it immediately became soft and moist. In one third of the cases the pains were enfeebled, and the intervals lengthened, but the increased relaxation fully compensated for this. In nearly every instance the abdominal muscles acted in concert with the uterine contraction; the legs stretching out, accompanied by moaning, though no consciousness of this was experienced at the time. In most cases the female was aware of the head passing the perineum, though not from the pain. No difference was observed in the expulsion of the placenta, and less than the usual amount of hæmorrhage occurred. In one instance its application was continued for 16½, and in another 11½ hours. Dr. Newin's experience was decidedly favourable. (The last month has considerably increased our experience in the method and result of chloroform exhibitions, and we think it necessary to observe that many of the mischievous symptoms complained of as the result of its application, are either caused by using bad preparations, or in not bringing the patient sufficiently under its influence. Many of the appearances which in our early experience we considered alarming, we can now afford to consider as perfectly harmless, and only requiring proper regulation as to the exhibition to deprive them of all their questionable symptoms.—Ed.

**IMPACTION OF THE FETAL HEAD.**—Dr. Murphy, at the *Westminster Med. Society*, related a case of impaction of the fetal head in the brim of the pelvis in which delivery was effected by version, as illustrative of the principles laid down by Professor Simpson, of its being preferable to the use of the long forceps. The brim and outlet of the pelvis were much contracted, and much perineal rigidity was present. Turning was accomplished with much difficulty, and the child was born dead. Chloroform was exhibited, but not to the production of a full effect.—*Med. Gaz.*, March 17.

**HÆMORRHAGE BEFORE DELIVERY.**—At the *Westminster Med. Society*, Dr. Reid remarked that considerable anxiety was often occasioned by hæmorrhage occurring at the eighth or ninth month of pregnancy, which repeatedly exhausted the patient and reduced her to the last extremity, without any symptoms of labour appearing. Dr. Reid's practice in such cases is to evacuate the liquor amnii, to plug the os uteri and vagina, and to exhibit the *secale cornutum*. Dr. Reid cited some cases in support of the good effects of his practice, but which do not appear to us very clear.

**PLACENTA PRÆVIA.**—Mr. Greenhalgh read a paper on this subject, before the *Westminster Med. Society*, which was perfectly innocent as to the advancement of any new ideas on this interesting question: nor did the paper elicit any remarks worth recording.—E. Ray, Esq., of Dulwich, read a paper on this subject before the *South London Med. Society*, which was illustrated with cases corroborative of his views. He arrives at the following conclusions.—He does not in all cases advocate the removal of the placenta, but bears testimony to the safety of the practice. He did not appreciate the importance attached to the opinions of Mr. K. Wood, Professor Simpson, and Dr. Radford, until the occurrence of his first case.



He considers the hæmorrhage to be maternal, and principally from the venous system. His treatment consists in restraining hæmorrhage and supporting the vital powers of the patient, in the accomplishment of which no new views are advanced.—*Proc. Med. and Surg. Journal, March 8.* Mr. Steel also, in the *Lancet of March 11th*, records two cases of placenta prævia in which turning was successfully performed, and considers that a wiser measure could not have been adopted.

**RUPTURE OF THE UTERUS.**—Dr. Smallwood, in the *British American Journal*, relates a case of this nature, which proved fatal on the fourth day after delivery. No post-mortem examination was allowed. Dr. Prassart also relates a case of rupture which occurred during delivery, and so certain was the practitioner of the female's death that he left her. In four days after this occurrence he was sent for, and found the patient suffering from inflammation of the uterus and bowels; in spite of reluctant attendance (every other day) the woman actually recovered.—*Casper's Wochenschrift*, 41, 1847.

**BLIGHTED FÆTUS.**—Mr. Hill, in the *Medical Times*, March 11th, states a case of a blighted fetus, of apparently five month's gestation, being born thirty-six hours before a fully developed healthy child. [We have to remark here that although vitality, and consequently growth, might have been arrested at the fifth month, the foetal mass might have had as long an uterine residence as its more healthy colleague. It is this fact which has so often occasioned speculations on super-fœtation; an event, which, if ever proved at all is at any rate a very rare occurrence—indeed we are inclined to believe that it oftener occurs in professional imaginations than in the uterine system of the female.—ED.]

**VAGINAL HYSTEROTOMY.**—Professor Bedford, of New York, in a case which had been in labour thirty hours, and no os uteri discoverable, states that the uterus was opened by the scalpel, and the female delivered with the assistance of the forceps. The patient recovered.

**TESTS OF PREGNANCY.**—Dr. R. C. Golding has now completed his paper in the *British Record* on the "Presence of Kiestein in the Urine as a Test of Pregnancy." The careful and minute investigation of facts which is so eminently displayed in this essay, will at once entitle Dr. Golding to occupy a prominent position in the ranks of careful and pains-taking enquirers; and this valuable qualification must, as a matter of course, eventually lead to the most important results. On submitting the facts, adduced by Dr. Golding in support of his several opinions, to the most searching investigation, we were convinced of their testimony being conclusive; but as it would be impossible to offer a condensed report of the paper, without depreciating its numerous merits, we are compelled to limit our notice to an earnest recommendation of its perusal.

**UTERINE HÆMORRHAGE.**—If the sole result of the establishment of the *British Record* had been the introduction to the profession of this very valuable essay, by W. Newnham, Esq., of Farnham, it would be entitled to the thanks of the Obstetricians of Europe. This essay embraces all the information already existing upon this subject, drawn up and arranged by the hand of an experienced master of the obstetric art, to which is added a vast amount of valuable and practical observations, the result of the author's experience.

It is not unreasonable to suppose that these opinions will hereafter become a standard reference to the profession on this most interesting and highly important subject, and with pleasure we direct attention to the essay itself.

**PLACENTAL ADHESIONS.**—F. Elkington, Esq. and Dr. Mackay, of Birmingham, in the *British Record* of March 1st, relate some instructive cases of placental adhesions, and point out the great liability of such cases (with careless management) to terminate in uterine inversion. It is of infinitely greater service to record observations applicable to every-day practice than to relate the rarest cases of obstetric science; for this reason our readers will derive much benefit from the perusal of the cases of Messrs. Elkington and Mackay.

**BACK PRESENTATIONS.**—Dr. Copeman, of Norwich, records a case in the *British Record*, March 1st, which terminated by partial spontaneous evolution of the fœtus. The directions proposed by Dr. Copeman to assist evolution are worthy of adoption.

**UTERINE HÆMORRHAGE.**—Mr. Griffin, of Weymouth, offers much valuable information on this subject, in the *British Record*, March 1st. His observations on the source of hæmorrhage are given with a spirit of critical enquiry, which reflects great credit upon his judgment and understanding; and we are further of opinion that he succeeds in arriving as near the truth as most of his contemporaries.

**CÆSARIAN OPERATION.**—The *British Record*, of March 15th, contains the conclusion of Mr. Goodman's successful case of Cæsarion operation, with subsequent pregnancy, abortion, and death. This case is very remarkable, there being, at the most, but four successful cases recorded in the history of British obstetrics.

**DISEASES OF WOMEN. FIBROUS TUMOUR OF THE VAGINA.**—Mr. Curling presented a specimen to the *London Pathol. Society* which was removed from a female, æt. 45 years; it was very solid, and had grown to the upper part of the vagina by a broad pedicle. The mucous membrane of the vagina extending over the tumour was dense and thickened, and in some places ulcerated. The structure was fibrous, and arranged in lobules developed in the sub-mucous areolar tissue of the vagina. It was of many years' existence, and presented the appearance of a prolapsed uterus; it also caused serious annoyance, being sore and tender, and emitted fetid discharges. Considerable hæmorrhage attended its removal by ligature, which was checked by plugging the vagina with sponge.—*Med. Gaz.*, March 3rd, 1848.

**PUERPERAL FEVER.**—R. U. West, Esq., Surgeon, Hogthorpe, Lincolnshire, draws attention to some cases of his own, which are corroborative of the opinion that puerperal fever may originate from attendance on erysipelatous patients, and that a malady so originating is capable of being communicated by one puerperal woman to another; some other practical suggestions of importance are also added. The cases which he adduces appear conclusive, as two became subjects of puerperal fever after visiting a case of erysipelas. His experience suggests the following conclusions.—That erysipelas, in the malignant and putrid state, may originate puerperal fever, but not in its early stages.—In puerperal women, where the contact was only by the hand (such as feeling the pulse), the disease is not originated.—That it requires something more than a mere visit to communicate the disease.—That it requires

the accoucheur's infected hand to come into contact with the mucous membrane of the vagina, to complete the infection. (Query—would not the heat and pain at the vulva, in some cases, appear to confirm or strengthen this supposition?)—That change of clothes, ablution, chlorides, &c., are of but little avail.—That erysipelas may originate a mild form of fever, which on being communicated to a second becomes more malignant.—Puerperal fever originating from erysipelas, is not necessarily fatal.—*Prov. Med. and Surgical Journal*.

OVARIAN DISEASE.—Dr. Kenneyon, of Harrowgate, records a case which was fatal after simple tapping, with rapid re-filling of the sac. [This case proves the truth of the common axiom, that tapping should only be resorted to at the last possible moment, unless the operation of extirpation is to follow. In this case extirpation would have been more likely to succeed. ED.]—*Prov. Med. and Surg. Journ.* March 8th.—Dr. A. Channing, in the *Med. Times*, March 18, mentions a case which discharged itself through the rectum, and the person recovered. Dr. Channing, from this one case, supposes a substitute for ovariotomy might be obtained, by puncturing through the rectum or vagina. [We do not deny that nature often effects cures, in cases considered hopeless, in a wonderful manner, and by most wonderful means; but we do deny the propriety of a man jumping at general conclusions from the *enlarged experience of a single case*. Let Dr. Channing try his scheme on the next case that occurs to him, and if he does not repent his temerity, it will be because he considers himself an irresponsible being.—ED.]

MAMMARY ABSCESS.—In the treatment of this troublesome, but common occurrence, the prevention of the secretion of milk is seldom or ever thought of. No better plan presents itself than the exhibition of a hydragogue purgative. Sulph. Magnes. with compound infusion of roses, and (when debility and hectic is present) a little quinine and sulphuric acid, acts magically; after months of suffering, improvement takes place from the moment a liquid evacuation is procured from the bowels.—*Pro. Med. and Surg. Journ.* March 22nd.

PHLEBITIS OF THE BRAIN AND MENINGES IN PUERPERAL WOMEN.—Dr. F. M. Ducrest is inclined to suppose that this affection is of rare occurrence, having only observed five cases in 259, whose heads had undergone examination.

OBLITERATION OF THE VAGINA.—Dr. Dickson, of South Carolina, has met with three cases of entire obliteration of the vaginal canal; in these cases even the vulva was represented by an elevated ridge.—*Med. Times*, March 18.

ERUPTIONS ON THE ORGANS OF GENERATION.—Dr. Chas. Simeons, of Mayence, directs attention to the fact, that when tartar emetic ointment is applied by friction to various parts of the body, it is apt to cause an eruption on the genital organs; not by communication with the hand employed in the friction, but arising from absorption into the system. If contact with the hand used for friction was the sole cause, the eyes, nose, mouth, &c., would be equally liable to be affected; but this Dr. Simeons has never observed to occur from simple contact.—*Med. Times*, March 25th.

MASTURBATION.—An extreme case of this fearful malady was brought into the Hotel Dieu on the 7th of February last. The characteristic features

were marasmus, idiotcy, profound depression, and diarrhæa, which was followed by death. She had been under the care of several physicians without her malady being discovered, and she suffered in silence and died completely emaciated. At the autopsy a large metal cup was discovered wedged in the vagina, which could not be removed without cutting the symphysis pubis.—*L'Union Med.*

**IMPERFORATION OF THE VAGINA.**—At the autopsy of a case of occlusion of the vagina, some interesting appearances were observed in the ovaries. Some ovules were detached which presented the appearance of having undergone a change not dissimilar to that which occurs in the fecundated ovule before it passes into the uterus; some cicatrices were even observed, and patches resembling corpora lutea.—*L'Union Med.*

**RIGIDITY OF THE OS UTERI.**—Dr. A. H. Cenas, in the *Orleans Med. and Surg. Journal*, relates four cases of this description, in which a watery solution of the bella-donna, administered by means of a vaginal syringe, was used with the greatest advantage.

**OVARIAN RUPTURE.**—In the *Lancet*, March 18th, E. W. Pollard, Esq., records the post-mortem examination of a case, in which death had arisen from the rupture of an extremely small ovarian sac. The amount of hæmorrhage had been very extensive; and the violent vomiting which preceded the collapse, might have occasioned the rupture. This vomiting occurred after taking vin. colchici for rheumatic pains.

**OBSTETRIC APHORISMS.**—In the *British Record*, March, 15th, are reprinted the aphorisms of Hippocrates, with comments by Galen, Fuchsius, and others.

**CONGENITAL FISTULA.**—Ascherson's beautiful monograph on this subject is completed in the *British Record*, March 15th. Combined with that of Dzondi, previously given, all the known information concerning this disease is afforded—a disease which, before these translations were introduced to the public, was unknown to British medical writers and practitioners.

**DISEASES OF CHILDREN—HOOPING COUGH.**—From Dr. West's excellent lecture on the diseases of children, appearing in the *Med. Gaz.*, March 10th, we extract the following remarks upon this troublesome disease—It is essentially a disease of childhood, few escaping it; more than one half having it before the third year—rapidly diminishes after the fifth, and after the tenth year extremely rare. Out of 815 cases, only seven exceeded ten years. 55. 4 per cent. were females—44. 6 per cent. were males. Females have it with greater severity, and are more liable to it. Hooping cough is a disease of all climates, though more frequent in cold than warm; its epidemics may occur at all seasons. It occasionally succeeds measles, and is generally considered to be contagious. Specifics have in vain been sought for its cure, all attempts being hitherto without success. Counter irritation has been extensively patronised, but the results have not justified the unqualified praise bestowed upon it, a mustard poultice to the chest being as beneficial as the best vaunted counter irritant. Internally, under proper management, prussic acid and vin. ipec: are among the best remedies.

**PHOSPHATIC DEPOSITS IN CHILDREN'S URINE.**—Mr. Grantham states that he attended three children in one family, in which three other children had died—two from serous effusion on the brain, and one from atrophy. The

three remaining had lax fibre, fair complexion, unequal diffusion of heat, dark eyes, and of indolent constipated habit. Their urine was straw-coloured, specific gravity 1.020, and without deposit after standing. Further analysis detected an undue proportion of phosphates in the *urina sanguinis*, but not in the *urina potus*. The treatment was absence from sugar, fruit, &c.; tepid bath; flannel clothing; and the exhibition of nitro-muriatic acid, followed by steel.—*Med. Gaz.*, Dec 17th.

**SPINA BIFIDA.**—Mr. Page, of Carlisle, records a case of successful removal of the tumour in a case of spina bifida; an encouraging fact, but only occasionally applicable.—*Month. Journ. Med. Science*.

**TARTAR EMETIC.**—In the treatment of pneumonia in children, Dr. Herard communicates a somewhat long paper on the advantages of this preparation. It is, as we have often experienced, a most valuable medicine; and as children but indifferently bear blood letting, tartar emetic ought to be more generally administered. Still it requires care.—*L'Union Med.*

**REVACCINATION.**—Dr. Carraro records the following results of 342 vaccinations; of these 180 were males and 162 females. In the males revaccination produced 19 complete results, 66 incomplete, and 68 unsuccessful. (27 who had had the small-pox were also vaccinated without success.) Of the females, 20 complete on revaccination, 66 incomplete, and 96 unsuccessful. Thirty afterwards had the small-pox.

*At different ages the result was as appears in the following table:—*

Age.	Complete.	Incomplete.	Unsuccessful.	Had Small-pox.	Cases.
5 to 6	4	5	17	2	26
10 to 15	9	28	33	6	70
15 to 20	9	33	32	12	74
20 to 25	11	23	26	16	60
25 to 30	5	16	14	8	35
30 to 35	1	16	16	5	33
40 & upw.		3	17	3	20

The pustule varied considerably. Of 39 complete cases, 26 presented a normal, and 13 an abnormal pustule. Of 132 incomplete, 98 were normal, and 34 abnormal. Of 114 unsuccessful, 87 were normal, and 27 abnormal. Of 57 individuals that entirely resisted re-vaccination, 41 had distinct small-pox, eight the confluent, and eight varicella.

**PHYSIOLOGY AND PATHOLOGY.—VALUE OF FETAL AND EMBRYONIC LIFE.**—Dr. Radford has treated this important subject with his accustomed ability, and selected the *British Record* for conveying his sentiments to the public. He considers the question in its legal, moral, and social bearings; and proves, that not only has the legislature neglected this vital subject, but that the medical profession and society generally have been guilty of the same omission. The absurd enactments still remaining on the statute-book, the farce of assembling a jury of matrons, the careless indifference with which society views abortion, the reluctance with which means are adopted to prevent its recurrence, the increasing prevalence of criminal abortion, and its frequent induction by obstetricians, are all evils which loudly and imperatively call for the closest investigation.

ON THE SYMPTOMS, CAUSES, AND TREATMENT, OF PUERPERAL INSANITY.—BY JAMES REID, M.D., LONDON. OCTAVO. p. 37. PAMPHLET.

The papers of which the pamphlet before us is composed have already appeared in the first and second numbers of the journal of *Psychological Medicine and Mental Pathology*. The subject matter is treated with considerable ability, the author having brought together, with no small trouble, a mass of evidence that is of great value, and well worth referring to for information by those who may feel interested in so important a subject. We cannot enter lengthily into its merits, but will give a quotation or two which we think will dispose our readers to read the paper, in the excellent journal in which it has already appeared. After defining what is meant by the term "insanity," the author proceeds to state—"From the period of conception, during the whole term of gestation, and up to the termination of suckling, there is an amount of nervous irritability and excitement in the system, which strongly predisposes to cerebral affections; but the two principal epochs at which this excitability becomes the most dangerous are *immediately after parturition*, and at a later period, when the system is exhausted by a too long-continued application of the infant to the breast. We find cases recorded in which cerebral disorder has commenced immediately after conception, and ceased at the period of quickening: in others, again, it has persisted throughout the whole term of gestation, but terminated on delivery taking place; whilst in more rare cases it has still continued until lactation was relinquished. The whole cerebro-spinal system is much excited during pregnancy, and more especially in the puerperal state; the senses are often extremely vivid, and the slightest impressions agitate the mind, which is thus ready to receive any false impressions which may be brought out by a sudden shock, or unexpected and exciting cause: hence the powerful influence of fright, surprise, or other strong emotions, in this condition of the nervous system, acting on a mind already predisposed to mania by some hereditary influence."

Speaking of the paucity of good authorities on this subject, the author pays a well merited and just tribute to the memory of Dr. Gooch, whose chapter "On the Disorders of the Mind of Lying-in Women," is one of the best we can refer to: he strongly recommends also the perusal of Esquirol's work.

Some interesting statistics are given in the Hanwell reports, out of 708 female cases, ten were from suppressed menstruation. In the Salpêtrière, out of 361 cases, fifty-five arose from irregularity of menstruation. Indeed *any serious disturbance in the uterine functions speedily affects the brain*, hence females are liable to insanity at the period of menstrual cessation. The author then proceeds to the consideration of insanity during pregnancy, during labour, and during protracted lactation. Child-birth and suckling furnish a large proportion of cases—according to Esquirol, 144 to 1119—in the Charenton, 10 to 256—Haslam, 84 to 1644.

The causes of insanity are then spoken of, prognosis—duration—termina-

tion—liability to return—and lastly the treatment—physical and moral;—from the latter we glean that bleeding is cautiously advised except in phrenitis—emetics and purgatives of great utility and of very general application. Anodynes (where attention has previously been directed to the bowels) of great use, particularly opium. Counter irritants occasionally very useful. Chloroform has been used, but discontinued from the serious effects produced, but of which the author does not give any account. As will be expected, the moral treatment is highly important, but does not differ from that employed in other forms of insanity. This work is interspersed with valuable cases illustrative of each department, and does Dr. Reid great credit for the careful manner in which it is written. We trust it will have extensive perusal, being convinced that the time spent upon it will not be lost.

NOTES ON THE ANÆSTHETIC EFFECTS OF CHLORIDE OF HYDRO-CARBON, NITRATE OF ETHYLE, BENZIN, ALDEHYDE, AND BISULPHURET OF CARBON.—By J. Y. SIMPSON, M.D., EDIN.

Dr. Simpson has instituted a series of experiments on different anæsthetic agents lately discovered, particularly the chloride of hydro-carbon, nitrate of ethyle, benzin, aldehyde, and bisulphuret of carbon. Certainly, no small praise is due to the Professor for the energy he displays in searching after the truth in the application of anæsthetic agents, not content with merely observing their effects on others, he tests their powers upon himself, or on friends on whose veracity he can rely. On the CHLORIDE OF HYDRO-CARBON—spec. grav. 1.247, which boils at 148°; its formula being C. 4, H. 4, Cl. 2.; is certainly a powerful anæsthetic, but produces great irritation in the throat, which does not leave the parts for many hours afterwards.

NITRATE OF ETHYLE.—Spec. grav. 1.118; boils at 185°; compounded of (C. 4, H. 5,) O, N. 0.5, or Ac. O, N. 0.5; easy and pleasant to inhale, powerful and rapid anæsthetic properties, but attended with great noise and fulness in the head before the effect is produced. Afterwards the head-ache and giddiness continues for a considerable time.

BENZIN.—Spec. grav. 0.85; boils at 186°; formula C. 12, H. 6. On inhalation the ringing noise was so intolerable as to preclude its use as a general application.

ALDEHYDE.—Spec. grav. 0.791; boils at 72°; formula C. 4, H. 3, O. 10 aq. According to Professor Poggiale its anæsthetic properties are more prompt and energetic than æther or chloroform—few, however, are capable of inhaling a sufficient dose from coughing, dyspnoea, to an insufferable extent similar to spasmodic asthma,—these effects were existent for some time after.

BISULPHURET OF CARBON.—Spec. grav. 1.272; boils at 106°; formula C. 8, S. 2.; a rapid and very powerful anæsthetic agent, head-ache giddiness continued some hours after. It is difficult to regulate its operation; in one case where an operation was performed, its effects were discoverable sixty hours afterwards. Its odour is also extremely unpleasant.

None of the five anæsthetics mentioned in this account are comparable with chloroform or sulphuric ether, in their manageableness or in their effects, and the after consequences which all of them tend to leave, are too severe and too frequent to admit of their introduction into practice. They are more interesting logically than therapeutically.

#### OBSTETRIC RETROSPECT FOR APRIL, 1848.

**PRACTICAL MIDWIFERY—ANÆSTHETIC AGENTS.**—We have in another place given a summary of the results of a series of experiments by Professor Simpson on these agents, and therefore direct the attention of the reader to it.

**CHLOROFORM IN LABOUR.**—Wm. Hallum, Esq., gives a case of impaction in the pelvis, in which chloroform was given, which brought the patient in a minute within its influence, and, to his astonishment, uterine action was suspended, the child was turned and delivered, the patient perfectly unconscious of the operation. [We do not wonder that uterine pains were suspended simply because Mr. Hallum forgot that it was not necessary to put the patient so deeply under its influence for labour as for surgical operations; for, if so, uterine pains of a certainty will be suspended. Why Mr. H. was necessitated to use the cold *douches* we cannot conceive—why not leave her alone? we never see any necessity of either suffocating or drowning our cases after its application, after a little while they awaken of themselves dry and comfortable.—ED.]

**CHLOROFORM IN MIDWIFERY.**—R. Phillips, Esq., at last comes forward with his views on this important question in the *Med. Gazette*. From the philosophical mode in which he commences his paper, and its heroic style, we expected a brilliant result drawn from a wide experience, when, lo! he brings forward but one case, in which the object was very imperfectly exhibited, and his conclusions amounting to something less than nothing upon it.

**CHLOROFORM IN MIDWIFERY.**—In the *Lancet*, April 15, a Mr. Howey asks if it has been noticed that the odour of chloroform can be detected in the breath of the infant for two or three days after birth.—(We should be inclined to doubt it.—ED.)—In the same number of the *Lancet* Mr. Barnes gives a long contribution on the application of chloroform; we dislike the spirit in which the article seems to have been written. As a compilation of facts it is imperfect, and should either have gone farther, or not so far, and the whole is tinctured with prejudice if not with worse feelings: Professor Simpson need not be under any serious apprehension from the attacks of one of Mr. Barnes's calibre.

**PURPERAL CONVULSIONS TREATED BY CHLOROFORM.**—Messrs. Clifford, Fearn, and Wilson, relate cases of the successful exhibition of chloroform. Mr. Clifford's case after half a minute produced tranquil sleep, and in forty-five minutes, safe delivery.—*Med. Times*. Mr. Fearn's case was equally effective, and allowed of safe delivery by the crotchet.—*Med. Gazette*. In Dr. Wilson's case also the convulsions were allayed and safe delivery effected.



**CHLOROFORM.—EFFECTS ON THE CHILD.**—In the various journals repeated hints are given as to the probable effects (injurious we suppose they mean) on the child, without adducing any proofs of such being the fact. There does not appear to be the slightest reason for such a supposition, not even where it has been used for hours together, nor do we believe such to be the case. A great outcry was raised against the ergot on the same ground, the parties however forgetting that pelvic and uterine pressure, long-continued, might satisfactorily account for most, if not all, the cases advanced. A Mr. Malan, in the *Lancet*, April 20, pursues this ignis fatuus still further; in respect to chloroform he says "how can we as yet know or ascertain the probable consequences of its use on the brain of the child? How can we calculate the ultimate consequences of its action in reference to the development of the mental faculties?" [We are not inclined to battle with difficulties that do not exist: it is enough to contend with those we know, and of greater utility than to create imaginary ones.—ED.]

**EXTERNAL UTERINE GESTATION.**—A paper on this subject was read before the Med. Surg. Society, London, by D. Dalrymple; which, from the appearance, ~~and~~ *post-mortem*, the author supposed to have escaped from the uterine cavity about the period of quickening. Dr. Lee, however, opposed this opinion, as at the time there were no decided symptoms of rupture of the uterus; he considered it an ordinary case of *ventral conception*. [Easy to assert, but difficult to prove. We suppose the Doctor strictly meant ventral gestation, as *conception* must always be in one place, the where and how of which is not even yet determined.—ED.]

**COMPRESSION OF AORTA IN POST PARTUM HÆMORRHAGE.**—M. Escalier, in a severe case, succeeded by compression of the aorta by his hand, above the umbilicus, and considers this mode useful, not only in arresting the flow of blood towards the uterus, but also by sending it back towards the brain, prevent those convulsions which so frequently occur after, or during severe hæmorrhage, and often prove fatal.—*L'Union Médicale*. In the *Proc. Med. and Surg. Journ.* is a translation of an article by M. Seutin, on Compression of the Aorta for Uterine Hæmorrhage, in which he maintains that it is not only a temporary relief but a permanent cure, and should not be looked upon as a *dernier resort*, but as a valuable resource under all circumstances, and ought to arrest the attention of the profession, although such men as Siebold, Velpeau, Saxtorph, &c., think but little of its advantages.

**DYSTOCIA.**—In the *Revue. Médico. Chirurg.* is recorded a case of twins. The first child came footling, and from the difficulty of disengaging the head, it was found that the head of the second child also was engaged with that of the first in the pelvis. The latter child was dead.

**SPONTANEOUS EVOLUTION.**—Mr. Edwards, in the *Lancet*, records a case of this nature, where he failed in attempting to turn, and was about to use the perforator when, *he says, the arm was withdrawn* after the expulsion of some feces, and the breech descended. [Spontaneous evolution is very much misunderstood by practitioners in general, as to the mode in which it is effected, the duty of the accoucheur, and the classification of the cases.—ED.]

**SUPERFETATION.**—E. Horlbeck, M.D., in the *Charlestown Med. Journ.*, U. S., relates a case of the expulsion of two fetuses at one birth; the one a full-

grown foetus of six months, the other about seven or eight lines in length, and apparently of about six weeks' gestation. Dr. Horlbeck enters lengthily into the question of arrest of development and superfetation, inclining to the latter, although the proofs are not more clearly displayed by him than heretofore. [Our own opinion is in favour of arrest of development;—we scarcely think superfetation possible, except in a case of double uterus; at any rate we have scarcely yet seen a case that might not have been explained satisfactorily on the score of arrest. Superfetation requires a long stretch of imagination to make it an admissible theory, and something more than is at present known must be promulgated before we adopt it.—ED.]

INDUCTION OF PREMATURE LABOUR.—A Mr. Evans, in the *Lancet*, April 8, 1848, instances two cases of difficult labour, in which he subsequently induced premature labour, but enough is not said about the capacity of the pelvis to prove such a mode of practice fully justified; it is not difficult labour in the common acceptation of the word that will warrant induction of premature labour at all times.

RETENTION OF DEAD OVUM.—In the *Philadel. Med. Exam.* Dr. Upshur, Norfolk, V. United States, relates a case where menstruation occurred in November, 1846, and became pregnant almost immediately after; in January subsequent hæmorrhage per vaginam occurred, after which the breasts became flaccid, and the morning sickness formerly present entirely ceased. On the 30th of July, six months after the hæmorrhage, she aborted a foetus three inches long, with a funis of six inches in length. There was not the slightest putridity detected in the ovum. [Such cases as this, where twins are conceived, and some accidental circumstance occurs to destroy the vitality of one, consequently its growth and development are checked, and, as is proved in this case, protected in utero from putridity, goes far to explain nine-tenths of the cases called by *wonder seekers* superfetation. In single conceptions, where the dead ovum has been retained, cases are recorded, some of which are very extraordinary if true. One mentioned by Alboacius in *Wolphius's Gynaeciorum*, &c., 1564, retained 28 years. Another by *Fournier*, 31 years. Another from the *Cas Rares*, 23 years. These cases appear well authenticated and agree in two points—all were converted into an ossified mass—and all were free from putridity.—ED.]

RETENTION OF BLIGHTED OVUM.—In the *Lancet*, April 23, Mr. Ridge quotes from his *Obstetric Note Book* three cases of retention of the blighted ovum. He refers for explanation on this phenomena to a work of his own, where he states—"The connexion between the uterus and the ovum is of such a character, that an immediate separation between them would endanger the life of the parent. The consequence is, that a blighted ovum may remain in utero from a fortnight to six months, and more. The ovum may be blighted either totally or partially; totally, when the placenta and embryo are both affected. . . . When this has thoroughly ensued, Nature, too cautious and too wise to permit the presence of such a body, soon rejects it; and she does this for several reasons, the two principal of which are, that it interferes, in the first place, with the return of the previous functions of the containing organ, the uterus; and secondly, that being of no further use, the sooner it is discarded the better. Next, the ovum may be partially blighted; this occurs

when the embryotic existence within it is entirely destroyed, whilst the placental portion is not. In this state, the placenta keeps increasing in size, as if unaware of its ultimate uses being at an end—namely, to nourish a fœtus. Arriving at a certain stage, however, it finds its labour useless, and it gradually ceases its efforts; perfect though it may be in itself, it can arrive only at a prescribed point of usefulness. When the supply of catamenial fluid from the uterus is unable any longer to be appropriated, it gradually lessens, until, at last, it stops altogether; after which time, the ovum becomes as foreign a body as when totally blighted, and the same laws for its expulsion begin to operate. . . . The difference between the two phenomena is this: that the totally blighted ovum is ejected in a period varying from one to five weeks, more or less, whereas the partially blighted ovum is ejected in from one to six months, more or less. I have seen many cases where the size of the patient has gradually increased to the fourth month, and after that period, a gradual decrease has ensued till the sixth month, when the ovum has come away. . . . A totally blighted ovum is firm and small, and comes away without much difficulty or flooding; a partially blighted ovum is more or less attended with uterine or labour pains and flooding. . . . A double ovum may become blighted, either wholly or partially, and an interval elapse between the expulsion; or a double conception occur, in which one child will live to maturity, and the other be blighted in the ovum." [We think with Mr. Ridge that the field of embryology, utero-gestation, and abortion, present phenomena which are far from being satisfactorily explained. Nor does Mr. Ridge help us out of the difficulty. The cases of retention of twenty or thirty years are not touched upon by him, alluded to in another paragraph of our retrospect.—Ed.]

**DISEASES OF WOMEN.—RETROVERSIO UTERI IN THE SIXTH MONTH OF UTERO GESTATION.**—A case is reported by J. Seddon, Esq., the patient aged 38. First pregnancy, but had previously miscarried once. An attempt was made to restore it to its normal position but failed, at the termination of the sixth month uterine pains being strong and the funis descending through the os. Without any alteration of the position of the uterus delivery was effected, which after being completed, another attempt to restore the position of the uterus failed. Seven weeks after, the organ being still retroverted, a third unsuccessful attempt was made. Mr. Seddon is inclined to believe that the difficulty arose from the long displacement of the parts, and the organ accommodating itself to the position. [The case is a singular one; but we think when the uterus has assumed its normal unimpregnated size, it ought and might be remedied.—Ed.]—*Prov. Med. and Surg. Journ.*

**ULCERATIONS OF THE OS AND CERVIX UTERI.**—Dr. Robert considers them to arise from simple inflammation, and from specific causes. Those from inflammation vary according to the modifications occasioned by the inflammation on the diseased texture, and not from its diversity of anatomical structure. If ulceration be superficial, the uterine tissue is not altered, but in old standing cases there is always congestion. Ulcerations may be excoorations, granular ulcerations, fungous ulcers, or callous ulcers. The discharges may become contagious under excitement, or the approach of menstruation; but are innocuous by long duration. Specific ulceration he enumerates as

herpetic, scorbutic, scrofulous, diphtheric, and syphilitic. In the treatment of simple ulceration, Dr. Robert advises cold washes with mineral waters, blisters on the hypogastrium, leeches to the cervix, baths of mineral waters, &c. As to cancerous affections, beyond excision as recommended by Lisfranc, to which he is but little inclined, the author suggests no particular treatment.—*Medical Times*.

**SORE NIPPLES.**—Mr. Lucas, *Lancet*, April 15, recommends greased tissue paper, to protect the nipples and to facilitate the healing process.—[We have found the thin membrane from mutton suet to answer the purpose far better.—Ed.]

**DISEASES OF CHILDREN.—CONGENITAL CEPHALIC TUMOUR.**—At the Edinburgh Obstetric Society Dr. Keiller reported a case on which an attempt at removal had been made. Its shape was pyriform, elastic, and compressible, situate near the mesial line of the occiput, exceeded in bulk the child's head, which was fully developed and well formed. Its connexion at the root could not be ascertained. On its being roughly handled the child evinced no uneasiness—no subsidence on pressure, nor tenderness, nor pulsation, occurred in the tumour when the child cried. There were no symptoms of pressure on the brain or spinal cord, no convulsions, &c. The tumour was removed; it consisted of cysts containing straw-coloured serum. The child sucked vigorously after the operation, but gradually sank on the following day—no post-mortem allowed.

**INTERMITTENT FEVER IN AN INFANT.**—S. S. Dyer relates a case of a child ten months old, in which the symptoms of the intermittent type were clearly marked, which gave way to the disulphate of quinine in mixture (the only way it ought to be given).—*Med. Times*.

**PHTHISIS IN CHILDREN.**—Dr. West continues his valuable lectures in the *Medical Gazette* on phthisis; the lecturer is full of interest in describing the auscultatory signs, the different forms, its duration, modes of death, prophylaxis, and treatment. With respect to the latter, the lecturer observes on prophylactics, one of the best is to keep the child at breast twelve or eighteen months.—[Which may be very true, but in our opinion the remedy is quite as bad as the disease, for marasmoid affections are the certain result of long suckling, and which, sooner or later, are as fatal as the genuine phthisis.—Ed.]—The selection of a healthy nurse where the mother is consumptive—feeding and clothing, well-aired rooms, removal to warm climate when the weather is cold and moist. Early catarrhal symptoms timely checked by mild means not to be neglected, until severe means are necessary. As to remedies, iron and quinine, with mineral acids, are our best tonics; where the bowels are relaxed, extract of bark and logwood may be substituted.—If the disease partakes of bronchial phthisis, with the glands of the neck affected, the syrup of iodide of iron may be given with advantage.—If there is sickness and paroxysmal cough, hydrocyanic acid and Battley's liq. cinchon. may be given where even the mildest tonics are scarcely admissible. Blisters and sharp embrocations are very proper early; but *bleeding at all times should be avoided*. When the cough becomes habitual, vin. ipec. with antimony and laudanum. Opium is necessary in all its stages to check relax, and relieve suffering, in spite of the caution necessary in using it to children.

**CONGENITAL UMBILICAL HERNIA.**—At the Medical Society of London, Mr. Newth shewed a specimen; the child lived four days. The small, and a portion also of the large intestines, were visible in the tumour.—*Med. Gaz.*

**MALIGNANT SCARLET FEVER.**—We refer to our own pages on this subject by J. M. Coley, M.D.

**CONVULSIONS OF THE FIRST SEVEN YEARS.**—Dr. P. Murphy, at the S. London Medical Society, read an excellent paper, March 30, on this subject. The proximate cause of which, he concluded, was pressure on the brain, either from arterial blood, venous blood, water, or newly-formed solid substance. He regarded convulsions as a salutary effort to eject the pressing matter from the brain, analogous to rigors after a chill. The remote causes are worms, irritant medicines, anæmia, whooping cough, and exanthemata. He doubted dentition as a common cause, for he had often observed the gums lanced without benefit, and other remedies had to be resorted to: toothache in children never produced convulsions. The younger the child the more disposed to convulsions.—[The discussion on this paper elicited nothing but the apparent determination to stick to old rules, whether right or wrong. We agree with the author, that frequently little or no good is effected on convulsions by lancing the gums, even when teething is the esteemed cause,—simply because, when once the nervous system is fully excited, it will not immediately be allayed by removing the cause. Often emetics will be far more effective than lancing, as telling more immediately on the nervous system. Still we think the author would have been more strictly correct to have included teething among the causes of convulsions.—ED.]

**FUNCTIONAL PARALYSIS OF CHILDREN.**—See our own pages, by J. M. Coley, M.D.

**PHYSIOLOGY AND PATHOLOGY.—DOUBLE UTERUS AND VAGINA.**—Dr. Huguier presented a woman to the French Academy of Medicine, who became pregnant in one half of the uterus. After delivery, the breast corresponding with that part of the uterus, viz. on the same side only, exhibited signs of lactation.—*Compt. Rend. de l'Acad. de Medicine.*

**ARTIFICIAL VAGINA.**—Two cases are related by Dr. De Bal, in the *Annales et Bullet: de la Société de Méd. de Gand*, July, 1845. In cases of occlusion by an incision between the urethra and rectum; in both cases a large amount of viscid blood was discharged (*pent-up menstrual secretion*). The age of both cases was 18. Both recovered.

**FIBROUS TUMOUR OF THE UTERUS.**—Dr. Russell, at the Birmingham Pathological Society, exhibited a small fibrous tumour of the uterus embedded in its muscular coat, from a woman of middle age and mother of two children, who died from perforation of the stomach, but without any symptoms indicative of uterine disease.—*Proc. Med. and Surg. Journal.*

**INDURATION OF THE PLACENTA.**—The labour was preceded by hæmorrhage, which was renewed after the birth of the child. The placenta was adherent to the fundus, and not easily extracted, after which the hæmorrhage ceased. About two inches and a half broad, at one edge was white, udder-like, and indurated, and this was the part adherent. It appeared the result of inflammation.—*Proc. Med. and Surg. Journal.*

## OBSTETRIC RETROSPECT FOR MAY, 1848.

**PRACTICAL MIDWIFERY.—CHLOROFORM IN MIDWIFERY.**—J. B. Brown, Esq., read a paper before the Westminster Medical Society, April 22, on this subject, which was divided into—1st,—Is chloroform useful in midwifery practice? 2nd,—Is it the best agent yet discovered? 3rd,—Is it free from danger to the mother and child? 4th,—Are its properties simple or compound? 5th,—Are its after effects beneficial or injurious, as retarding or accelerating recovery after parturition? 6th,—Is it advisable to give it in all cases of labour, both natural and artificial? To these points Mr. Brown directed his attention. As to the 1st,—if due attention be paid to the simple fact of not producing deep sleep (necessary in severe operations), but just sleep and no more, the uterine pains will continue, and the chloroform may be esteemed a most valuable agent in practice. As to the 2nd,—It is the best anæsthetic agent. 3rd,—It is free from danger to both mother and child, provided careful and judicious management accompanies its exhibition. On the 4th point,—Mr. Brown considers its properties as compound, or, as Dr. Simpson has expressed it, it will suspend uterine action by a large dose, with a less dose it will continue the action, and in a still smaller dose it will increase uterine action, to which Dr. Brown adds, it effects insensibility to pain. On the 5th point,—Mr. Brown considers its effects decidedly beneficial, but injurious if imprudently or improperly administered. On the 6th point,—Mr. Brown decides that it is not desirable to use it in all cases. On these points a discussion arose, in which Dr. Barnes, Dr. Murphy, Dr. Snow, Dr. Rodgers, Dr. Reid, and Dr. Coley, took part.

**ERGOT IN HEMORRHAGE.**—R. T. Wylde, Esq., in the *Medical Gazette*, May 12, records two cases to prove that ergot is not to be depended upon as a preventive of hæmorrhage. [It would be fortunate indeed if any remedy could be depended on at all times and under all circumstances, such an agent is unknown in the science of medicine, but our opinion is favourable to the ergot on this question. Mr. Wylde perhaps used an inferior preparation, as *good Ergot is seldom met with*. Notwithstanding, Mr. Wylde's two cases are not sufficient to disprove what is now becoming very generally allowed.—Ed.]

**UTERINE HEMORRHAGE.**—Mr. Simpson, in the *Lancet*, May 20, in a case sinking from loss of blood, pulseless, and almost defunct, the patient became capable of swallowing by dashing water in the face from a distance. On the principle as recommended by Dr. M. Hall, Mr. S. also assisted, or rather facilitated, the return of vitality by blowing smartly on the face at short intervals, in the same way as it is done to restore asphyxiated children. [We do not see any thing very new in this, common sense could have dictated no less.—Ed.]

**UNAVOIDABLE HEMORRHAGE.**—Dr. Waller, in the *Medical Times*, records six cases where the placenta was naturally expelled or spontaneously extracted before the fetus. In the first, the placenta adhered nearly to the whole circumference of the os, yet there was little hæmorrhage, and strong pains expelled the placenta spontaneously. 2nd case: Placenta expelled an hour and a half before the child, no hæmorrhage. 3rd: Placenta removed, no hæmorrhage, embryotomy was resorted to, mother died in a week. 4th: Pla-



centa attached nearly to the whole circumference of the os: it was detached, no hæmorrhage, mother and child both lived. 5th: Placenta detached, no hæmorrhage, mother died of muco-enteritis within the week. 6th: Placenta over the whole os, which was detached, no hæmorrhage, child was twelve hours before it followed, mother did well. Dr. Ray, in the *Medical Gazette*, states a case: whilst the placenta was detaching the hæmorrhage was free, but gave up on the detachment being completed, though labour was not completed for five hours after by craniotomy. Mr. Stokes, in the *Lancet*: detached the placenta, hæmorrhage ceased, the child was turned, case did well. Dr. Meadows, of Otley, in the *Lancet*: a case where the placenta was attached all round the os, which, on being removed, all hæmorrhage ceased; mother did well. Dr. Pavesi, in *Annal. Univ. di Med.*: a case of twins, one common placenta, partially attached to the os. After the birth of first child the placenta was detached and brought away, the second child immediately followed; both lived. Dr. Ray, in the *Med. Gazette*, relates a similar case to Dr. Pavesi's, with this exception that the second child was delayed longer, and was, of course, still born. All these cases prove the practical utility of removing the placenta in such cases. HÆMORRHAGE BEFORE AND AFTER DELIVERY.

In the *Révue Méd. Chir.*, M. Hæsendonck, gives a case of second pregnancy, not at full time, membranes were ruptured, and delivery effected, after which followed a large firm coagula. Dr. Tyler, in the *British Record*, gives two cases of internal hæmorrhage, one saved by prompt treatment, the other fatal. Mr. Davis, in the *British Record*, records a case of very slow recovery after internal hæmorrhage. [We think, with the editor of the *Monthly Journal*, that internal hæmorrhage is more frequent than generally allowed; and we ask with him, of what use is the plug in such cases, except to do mischief?—*Mon. Jour.*]

INTERSTITIAL EXTRA-UTERINE GESTATION, by Dr. Payan, of Aix. Of a woman, aged thirty-two. Her pregnancy was of three months, and enjoyed good health. Suddenly, and without any appreciable cause, was seized with violent pains in the hypogastric region, burning thirst, and extreme prostration; syncope occurred, and she died nine hours after the illness first commenced. On examination, a large quantity of coagulated blood was found covering the uterus. This organ was of larger size than in the unimpregnated state, and presented a prominence at its upper part, in part diaphanous, and through which an embryo could be perceived. On opening the uterus, its cavity was found large, and lined with a false membrane, incompletely organized, not containing any fetus, and also devoid of any blood. Evidently the decidua vera. Projecting above, from the uterine cavity at the fundus uteri, on the left side, was another cavity, in the neighbourhood of the uterine termination of the Fallopian tube, and probably communicating with it. This second cavity was formed out of the thickness, and at the expense, of the walls of the fundus; its own parietes were thin, and, in parts, translucent. It was in this secondary and interstitial pouch that the entire fetus, with its placenta, was lodged. This case was one of extra-uterine gestation of an uncommon kind. Development had proceeded till the third month, when the embryo produced rupture which led to fatal hæmorrhage. Two other forms are known—one in the Fallopian tube, the other in the ovary; in the former, a fatal issue sooner supervenes than in ovarian or interstitial varieties. When rup-

ture of the enclosing fetal sac takes place, the fetus will in most cases escape into the abdominal cavity, but in the instance narrated it retained its position in its unnatural cavity. Some describe a form where the fetus is developed in the abdominal cavity, supposing the ovum to escape the grasp of the fibrinated extremity of the tube, in its passage into it from the ovary, and to fall into that cavity. Such cases as the above are beyond the remedial power of art, and generally prove rapidly fatal by hæmorrhage and serous inflammation. Looked upon in a medico-legal point of view, the only suggestion that can be made contrary to the generally received opinion of the mode and cause of death is, that an instrument has been passed between the uterus and fetal membranes, suffering the entire ovum to escape, and inducing contraction of the uterus, and rupture. But the appearances presented on a post-mortem examination will at any time prove or disprove the truth of any such assumption.

**DURATION OF NATURAL LABOUR.**—Out of 5852 cases of natural labour (1753 primiparæ), occurring in three years at the Dublin Lying-in Institution, the following was the duration of labour divided into four periods, according to Drs. M'Clintock and Hardy:—3882 were delivered under 6 hours, and of these 716 were primiparæ; 1398 between 6 and 12 hours, and of these 640 were primiparæ. 426 were delivered between 12 and 18 hours, and of these 368 were primiparæ; 146 between 18 and 24 hours, and of these 110 were primiparæ.—*M'Clintock and Hardy's Practical Observations.*

**TURNING IN NARROW Pelves.**—Dr. Wilson, of Glasgow, in the *Edinburgh Journal of Medical Sciences*, states that he has been in the habit for many years of turning the child in narrow contracted pelves. Dr. Wilson thinks he has saved many lives by this mode, and says "In my opinion, turning can only be effected safely and successfully under certain conditions. I would not undertake its performance when labour had been long continued, the patient's strength exhausted, uterine energy gone or uterus painfully and permanently contracted; nor would I recommend it when there was reason to suppose the child was dead, the pelvis very much contracted below its usual dimensions, or when the attendant was not familiar with the operation of turning." After recording the rules laid down by obstetric writers, he states, "No rule can be laid down to guide us in practice from the mere measurement of the pelvis. Before a safe rule could be laid down it would be necessary to ascertain exactly the size, the form, and the state of ossification of the child's head, WHICH IS BEYOND OUR POWER. Such is the difference of these points, that of two heads at full time, one will pass through a pelvis half an inch short of the space which another will require. Besides, the measurement from pubis to sacrum gives no true indication of pelvic space; the projecting promontory may be thrown very much on one side, leaving so much space at the other, that a head of small dimensions, and of compressible conformation, may easily pass through it. Dr. Wilson then argues in favour of turning, and disapproves of the long forceps as a substitute. On this point he says, "the long forceps are inapplicable when the parietal bone overrides the pubis to any degree, as they cannot be placed over the sides of the head, which are the points we wish to compress. The only way in which the forceps can be placed in these cases is by the sides of the pelvis; consequently one blade of the instrument is applied over the face, or forehead, and the other over the occiput. Now compression by forceps so placed, will shorten the long axis



*of the head, but it will extend the transverse, and thus increase the disproportion which exists between the head and the conjugate diameter of the pelvis, and augment the difficulty we were solicitous to overcome.* Dr. Wilson believes the crutch has been too frequently used in such cases.

**SECONDARY FETUSES.**—Dr. Keith read a communication to the Edinburgh Obstetric Society, from Dr. Christie, of Dundee, on this subject. The case was one of twins. The first presented the breech and one foot, was healthy and full grown; the second dead and putrid, apparently a seven months' fetus. *There was but one placenta,* of which the part belonging to the dead was decayed and easily lacerable, the other part healthy. [*We believe the conception in this case to be simultaneous in both: does not the formation of one placenta prove it?*—ED.]

**SECONDARY FETUSES.**—The law in relation to the death of the fetus, was well known to be this—1. That usually, in from one to three weeks after the fetus died, uterine contractions supervened, and effected its expulsion. But to this law there were various exceptions. For, 2. If the embryo died early, and the fetal appendages continued to live and vegetate, expulsion might not supervene for months. Dr. Simpson showed a case of hydatiginous ovum, where the embryo was not larger than of the sixth week, but the placenta, or rather the chorion, was the seat of hydatiginous hypertrophy and degeneration; and the mother calculated that she had passed the usual term of utero-gestation, not having menstruated for eleven months previous to the expulsion. 3. When the fetus dies from the third month onwards (in consequence of disease in its own organization, in its cord, or in its placenta,) and a second twin living fetus exists at the same time in utero, and this second fetus continues to grow and keep up a correspondence of development between the organ and its contents, the dead and undeveloped twin may be retained up to the full term of pregnancy, and be then born with the other living and full-sized child. 4. When the dead fetus is thus retained, it is preserved free from the decomposition usually following death by all access of air to it being prevented. Sometimes it retains its usually rounded appearance and form, if it continues to be surrounded by a sufficient quantity of liquor amnii; but in other cases where this protecting medium of liquor amnii is defective, the fetus becomes gradually more and more squeezed between two forces,—viz. the parietes of the uterus on one side of it, and the other living twin or its membranes on the opposite side; and at last, when born, it is found compressed and flattened in form. Two such flattened fetuses are in the University Museum; and many such are on record. 5. The birth of undeveloped dead twins had sometimes given rise to most erroneous ideas of the existence of superfetation. 6. Occasionally, when one of twins died early in pregnancy, it was after a time expelled (when it happened to be situated near or over the os uteri); afterwards the uterus closed, and pregnancy went on to the full time with the remaining living child. He mentioned a case of a lady aborting a fetus about the third month, going on in pregnancy to the full time, and then being delivered of twins; having originally conceived triplets. 7. This last circumstance evidently led to the practical deduction,—that when a dead fetus in its envelopes was expelled during the period of pregnancy, and the uterus notwithstanding still remained large and apparently distended, its further contents should not be in any way interfered with; but rest, and other

means employed to avert the excitement of any additional uterine contraction, under the hope that a living twin might still be retained, and carried to the full term of utero-gestation.

**RUPTURE OF THE UTERUS.**—Professor Simpson describes two cases of ruptured uterus to the Edinburgh Obstetric Society, which had been caused by hydrocephalus in the fetus; both mothers had had large families, and in each the labour was prolonged. Dr. Simpson made some general remarks on cases of this character, amongst which he stated that where the foetal head was known to be hydrocephalic the labour ought not to be prolonged; and where it was necessary for legal purposes to secure the birth of the child alive, instead of the crotchet, he advised tapping the head by a small trocar, by which means the child might be born alive. He also stated that hydrocephalic fetuses frequently presented by the feet or breech. Another suggestion was also thrown out; supposing the body born, the head retained, instead of passing the perforator to the brim of the pelvis, the Doctor proposes an opening to be made in the vertebral canal to let the fluid escape.—*Monthly Journal Med. Sciences*, 1848.

**DIFFICULT LABOUR FROM VAGINAL CICATRICES.**—Dr. Parefoy, in the *Dublin Journal of Med. Science*: the cicatrix stricture was dilated, still it was necessary to turn the child; the woman sank after a labour of two days' duration. Another similar case by the same person recovered after a labour of two days, child dead.—*Monthly Journal*.

**INDUCTION OF PREMATURE LABOUR.**—Dr. Kiwisch, in the *Mem. del Med. Contem. Annal*, &c., proposes the injection of warm water into the vagina which, if continued ten or twelve minutes impinging against the os uteri, that object will be effected.—*Monthly Journal*.

**DISEASES OF WOMEN.—ANASARCA OF PREGNANT WOMEN.**—In the "*Revue Med. Chirurg.*," are recorded some cases of anasarca during pregnancy, connected with convulsions during parturition. This anasarca is usually caused by a disease of the kidney, appears frequently at an early period, and is accompanied by albuminuria. It is supposed to arise from a too nutritious and stimulating diet; and as a consequence, absence from animal food, one of the best remedies. In the parturient convulsions subsequent, enemata with laudanum and blisters to the inguinal regions.

**POLYPUS UTERI.**—At the Roy. Med. Chir. Society, Dr. Locock stated that Dr. Hooper shewed him twenty years ago a uterus having a polypus not larger than a pea attached high up within the cervix. It had been taken from a young woman who had died from long-continued uterine hemorrhage. Several years after this he was consulted by a medical friend about his wife, who was suffering from frequent attacks of profuse uterine hemorrhage. By examination, the tip of a very small polypus was discovered considerably within the cervix. From its situation and small size, it appeared impossible to remove it. Some weeks afterwards, the author was called to see the lady, in consequence of the hemorrhage having been alarmingly profuse. He found her with a bloodless countenance, and a most feeble, flickering pulse, and it seemed evident that, if the hemorrhage continued, she could not much longer survive. The polypus was still so far out of reach that all attempts to catch hold of it by forceps or hooks entirely failed; but he succeeded in picking off

or digging through the polypus with his finger-nail, and the patient perfectly recovered. He had since met with four cases similar. In all, the small polypus could not be detected, except during hæmorrhage, at which time the os uteri was open and flaccid. It was with difficulty, and after many failures, that the author succeeded in removing the polypus in three of the cases. But he often felt that if he had a finger-nail, long, strong, and sharp enough, he might scoop away the polypus, as in the case of his medical friend's wife. He therefore had an instrument, which is simply a very small, fine, and sharp scoop, like a carpenter's gouge, enclosed in a canula, either to remain entirely within, or made to protrude beyond, the sheath—the length of the protrusion being regulated by a screw at the handle. This instrument is passed through the os uteri, its cutting edge is pressed against the base of the polypus, and is then worked gently half round and back again once or twice, till it has cut through the object. He then offered some remarks on polypi of larger size, recommending their removal by excision rather than by ligature. Before excision, he twists the polypus round several times, so as to produce torsion of the arteries. In very large polypi, it may, perhaps, be better to apply the ligature first, and after two or three days, when the circulation has become strangulated, to cut through the neck of the polypus above the noose. When the polypus, though quite within reach of the touch, is too small to be noosed by a ligature, and baffles the operator in attempting to seize it with forceps or hooks, the difficulty vanishes if a bivalve speculum be used to bring the polypus within sight. It can then be snipped off with a pair of curved scissors, with or without the assistance of the forceps, the cut surface being afterwards touched with nitrate of silver. Lastly, he noticed the circumstance that a large polypus may exist, even of the size of a fetal head, without the usual symptoms, hæmorrhage or leucorrhœa, being observed—its presence being discovered through its pressure on the bladder leading to the necessity for the catheter.

**UTERINE POLYPI.**—Dr. Mitchell, in the *Record*, Dr. Hamel, in the *Med. Gazette*, and Dr. Flumiani, in the *Annal. Univ. de Med.*, record cases. In the two first cases there were extensive hæmorrhages, both were removed by ligature; Dr. Mitchell's case was nine days in being separated, Dr. Hamel's two days. In Dr. Flumiani's case the tumour was broken down, and afterwards the pedicle separated by scissors; no hæmorrhage occurred from the operation, although the case was much reduced by it previously.—*Monthly Journal*.

**FATAL WOUNDS OF THE UTERUS.**—A horrible case recently came before the French tribunals. M. Tardieu was consulted, together with MM. Orfila and Cloquet. The violence in question was committed by a peasant on his wife, seven months advanced in pregnancy. The woman was heard supplicating and reproaching her murderer three quarters of an hour after large portions of her intestines had been seen in the yard, having been thrown there by him. The fetus found in the bed had breathed. On examining the body no external violence was observable. A large quantity of fluid blood was found in the abdomen, extensive lacerations of the vagina, uterus, and peritoneum, existing, the ragged edges of the parts showing that a cutting instrument had not been employed. The whole of the intestinal canal, from within fifty centimètres of the pylorus to eight centimètres from the ileo-cæcal valve, had been torn away, a portion of the highly-injected mesentery remaining.

**DISPOSAL OF EARTHY MATTER IN THE PLACENTA.**—Dr. Mackay exhibited to the Birmingham Path. Society a placenta spotted over with earthy matter. The patient twenty-eight years of age; first child; had miscarried twice; married three years; had suffered severely from sympathetic affections, of pregnancy during the first three months, and the last month of gestation; had also complained of tenderness over the uterus, but of no fixed pain; formerly had suffered from dysmenorrhœa. Hemorrhage occurred for a day, three weeks before her confinement, and returned during the early stage of the labour. An hour after labour the hand was introduced, and the placenta, which adhered to the uterus, was extracted. The patient did well. The structure of the placenta normal; but a copious deposit of earthy matter, in spots scattered over its attached surface.

**PROLAPSUS UTERI.**—Dr. Reid, in the *Dublin Med. Press*, May 17, proposes a new kind of womb supporter, viz., a steel spring, with and constructed to receive the os uteri, the whole being kept in position by a T bandage. [We refer Dr. Reid to our own pessary, a description of which was read before the British Association when assembled in Manchester, by which he will perceive that his ideas are far from original.—Ed.]

**OVARIAN DISEASE.**—Mr. Arnott related the case of an attempted removal of a multilocular ovarian tumour to the London Pathol. Society, May 1st. We take the case as it is reported in the *Medical Gazette*, which plainly shows the evils of what is termed the minor operation. First, an opening to the extent of an inch was made, that proved too small, then the opening was enlarged to three inches, and the principal sac tapped to three quarts, subsequently another sac was tapped, but from adhesions discovered by the finger the operation was given up. The patient died in 24 hours after. From carefully perusing the statement of the post mortem examination, we believe we have extirpated (by the large incision with favourable results) where there have been more numerous and extensive adhesions than this case presented. We still maintain that attempts to drag a tumour through a small opening, where the adhesions are even but trifling, does irreparable mischief.

**OVARIAN DISEASE.**—Mr. Page, of Carlisle, removed an ovarian tumour from the dead body of a female, æt. 22, which besides containing sero-purulent fluid, had both teeth and hair in it.—*Medical Gazette*, May 26. As the previous history of the case is not recorded, its pathological demonstration is of but small value.

**SPONTANEOUS CURE OF AN OVARIAN TUMOUR.**—In the Société Médico-pratique, Paris, a case of encysted ovarian tumour, of several years standing, was brought forward, which disappeared in a few days, after very considerable micturition. M. Dobigny, who attended the lady, asked the Society for the solution of the problem, whether the cyst opened into the bladder, or was merely effused into the peritoneum, absorbed, and carried off by the kidneys. He gives no other symptom but a feeling, expressed by the patient, as if some liquid were falling drop by drop into the cavity of the abdomen. Another member mentioned a similar case.

**INFLAMMATION OF UTERINE APPENDAGES.**—C. Taylor, Esq., at the South London Medical Society, read a paper on this subject. The author divides the

subject, *First*, into those cases occurring where the uterus and its appendages are the subjects of inflammatory action, extending from the peritoneum, generally as *puerperal peritonitis*. *Second*, where the patient had not been subject to puerperal fever. The cases of the author were of the latter class, on which he observed,—in the first, it might be traced to prolonged labour; in the second, the labour was natural without any obvious cause; in both, the symptoms and terminations were alike. Mr. Taylor then introduced a table of 61 cases from various sources. In 24 inflammation commenced before the 10th day, 5 from the time of labour, 2 at three weeks, and 4 at the month. Out of the 61 the probable cause is stated only in 14; of which, 3 after instrumental labour, 4 lingering, 2 exposure to cold, 2 puerperal fever, 1 after turning.

In 32 cases 15 were 1st confinements

5	„	3rd	„
4	„	5th	„
3	„	4th & 2nd	„
2	„	7th	„

In 45 cases of Mr. Bell,

25	were 1st confinements.
5	„ 2nd „
3	„ 3rd 4th & 5th „

The majority occurred between 23 and 30 years of age. As to termination of 60 cases, 7 by resolution, 53 by suppuration; of the latter 24 discharged externally, 19 internally. Of the external, the most frequent was by the vagina, next in frequency above Poupert's ligament. The probability is, that the disease terminates more frequently by resolution than is generally suspected. In the table, death occurred in three cases, in Mr. Bell's 93 cases there were 93 deaths. In the treatment, the author recommends repeated local depletion, the exhibition of mercurials and anodynes, starch enemata with laudanum, poultices of bran and warm water, vaginal injections.

**UTERINE DISEASE.**—Dr. Ramsbotham exhibited to the London Path. Society, two specimens of uterine disease, both connected with pregnancy, the diseased portion in each case was very small, though attended by fatal termination. The cause of death appeared to be hæmorrhage, although in one case it did not appear sufficient to account for it in Dr. R.'s opinion.

**CORRODING ULCER OF THE ANO-VULVAR REGION.**—M. Huguier described an *ecthiomenic* or *corroding ulcer* of the ano-vulvar region. This form of ulcer was sufficiently familiar in the face under the name of lupus, but confounded with other diseases when it appeared in the female genital organs. Here, as elsewhere, M. H. attributes the origin to the scrofulous habit, or to the combined effects of habit with syphilis taint. He has generally seen it in young women, and admits the three forms of ulceration described by Biett, viz.,—1. Superficial lupus. 2. Corroding lupus. 3. Lupus with hypertrophy. The diseases with which it may be confounded are—syphilitic ulceration, elephantiasis, and simple hypertrophy of the tissues.

**LYMPHATIC TUMOURS IN THE BREAST.**—In the *Lancet*, May 27, Dr. Cooley, of London, brings forward a number of cases of this description. On one being removed, it was found to consist of thickened coats of the lymphatic vessels, imbedded in a stratum of condensed cellular membrane. These affections are chiefly attributable to the imperfect performance of menstrual function. It is distinguishable from the chronic mammary tumour, by the pain and tenderness, the vitiated state of health, and by the absence of lobes and cyst, also by invading the breasts of suckling women rather than virgins.

In the lymphatic tumour there is a deficiency of circulation in the uterus, whilst in the mammary tumour there is uterine excitement. In the treatment, Dr. Coley found them to give way to leeches, mixt: ferri: co: and evaporating lotions, and occasionally the pill ferri & aloë.

**STYUMOUS DISEASE OF THE UTERUS.**—Dr. Lever, in the *Med. Gazette*, states a case where menstruation had been long suppressed, but twelve months before death a sanguineous discharge, assuming a periodical feature, took place from the vagina, although at 58. On examination post mortem, tumours were found in the mammae and between the rectum and the uterus, the uterus itself thickened.

**DISEASES OF CHILDREN.—INFANT MORTALITY.**—At the Academy of Medicine, M. Loir endeavoured to show (May 2) that the exposure to which infants are subjected in being taken to be registered during the first three days after birth materially increased the returns of mortality. He observed that three great maxims had been generally observed. *The first* during the forty-eight hours which follow parturition, and which is the same at all seasons; *the second*, called winter maximum, is observed from the fourth to the twelfth day; *the third*, summer maximum, from the tenth to the twenty-second day. Hence, in the winter the first half month, and the second in summer, is most fatal to infants; consequently, early exposure cannot be too strongly reprobated.—*Med. Times*, May 13, 1848.

**INTRA-UTERINE PERITONITIS IN THE FŒTUS.**—Dr. Simpson showed to the Obstetric Society, Edinburgh, a new-born infant which died a few days before birth of acute Peritonitis, as evidenced by quantities of coagulable lymph effused upon various parts of the surface of the peritoneum, and more particularly on the surfaces of the spleen and liver. Dr. S. stated, that, 1st, Acute and fatal Peritonitis appeared to be a very common disease in the fœtus, in the latter months of utero-gestation. 2nd, A large number of fœtuses dying in the seventh and eighth month of utero-gestation, presented, as he had found on dissection, well-marked evidence of it, in effusions of coagulable lymph, adhesions between the folds of intestines, pus, &c. 3rd, The child was sometimes, though rarely, born alive, and affected with it. 4th, Far more commonly the child is born dead, and the previous history shows that it had perished from one to three weeks before expulsion, its movements having ceased about that time. 5th, Before the movements entirely ceased, the mother generally remarks that its movements are morbid and excessive for fifty or sixty hours previously—probably during the fatal disease. 6th, Peritonitis is occasionally apt to recur in successive children in the same mother, and seems in some a result and remnant of the syphilitic poison in the parents. 7th, But in most cases its occurrence is independent of syphilis, and occasionally it will not attack successive children in the same mother, or even both children in twins. In an essay on the disease, published some years ago in the *Edinburgh Medical and Surgical Journal*, Vol. I. p. 392, Dr. S. described a case of twins, in which one was born living and healthy; the other was dead, and within the abdomen were found all the usual appearances following intra-uterine Peritonitis. Whilst intra-uterine Peritonitis was common, intra-uterine Pleuritis was rare; Dr. S. had only seen two cases of it in the fœtus.

ON TYPHUS AND TYPHOID FEVER.—Dr. Willshire, in the *Medical Times*, May 20, enters largely into the question of peculiarities and distinctions of typhus and typhoid fever, and to show the uncertainties of this question, he notices the discussions on the Continent, as to whether or not continued fever of a low or adynamic kind depends on inflammation, &c., of the glands of Peyer, a conclusion generally discountenanced in this country. France, however, acknowledged it, and it is stated that the anatomic signs of typhoid fever were lesions of the gastro-intestinal apparatus. Hence so many terms were attached to the varieties, that the word *fever* was superseded. These various terms continued in vogue until Chomel, Andral, and Dalmas, affirmed that the lesion after death from *fever* was not constant. Such facts as these, the scepticism of British writers, &c., materially influenced French pathologists; still the question is as far from being settled as ever; whether there are two kinds of fever or modifications of the same is not decided. As to a further illustration of these uncertainties, Dr. Willshire mentions that Rilliet maintains that Abercrombie described the typhoid fever of children under acute inflammation of the intestinal mucous membrane; that Eranson and Maunsell have done the same under ileitis and remittent fever. Hamilton and Underwood treat of typhus in children; whilst Dr. H. Davis never met with typhus before the age of ten years, and coincides with Merriman that it is remittent. Fabre says it is impossible by post mortem to decide whether a child dies of typhoid fever or follicular disarisis; Rilliet and Barthes say the same between typhoid fever and enteritis; and lastly, M. Taupin believes that Charpentier, Senn, Abercrombie, and even Ruz, have mistaken acute meningitis for typhus.

CROUP.—Is a specific inflammation of the mucous membrane of the larynx, characterized by the secretion of false membranes on its surface, and marked by three distinct periods. The first presents the symptoms of angina, the predominant signs being sore throat, accompanied by pain in the anterior part of the neck, and swelling of the maxillary ganglions; at the same time the tonsils are red and swollen, the soft palate, tonsils, and pharynx studded with small white patches, and the general symptoms are limited to loss of appetite and some febrile excitement. As soon as the larynx becomes engaged in the inflammation, the second period begins: the cough, loud and hoarse, resembles the barking of a dog or crowing; the voice soon is totally extinguished, and its tone is harsh like the cough. Breathing is accompanied by a sound which recalls to the mind that produced by a saw working its way through a soft stone. At the same time dyspnoea appears, and the hand is carried towards the throat by convulsive action. Remissions often separate the attacks of suffocation, and asphyxia begins. Expectoration is sometimes absent, but occasionally causes the expulsion of false membranes. The third period is expressive of slow or rapid asphyxia, complete aphonia, laryngeal sonorous respiration, convulsive actions of the respiratory muscles, frequency and irregularity of the pulse, throwing back of the head, extreme paleness, and somnolency. Death supervenes either in a paroxysm of suffocation, or from a sort of calm asphyxia, in a slow and progressive form.

PSEUDO-CROUP, or laryngismus stridulus, deserves, on account of its frequency, to be well known, and to be distinguished from real croup. It is, like the latter, an acute disease, but differs from it by its sudden appearance and

the total absence of premonitory symptoms. It generally shows itself during the night. The child wakes in a state of suffocation, and makes vain efforts to breathe: the eyes are bloodshot, the face red and swollen, and the cough, loud and stridulous, is occasionally of a barking character, or resembles more closely croupal cough, being harsh, stifled, and of a metallic sonorousness. Respiration is sibilous; the inspiration crowing, and expiration usually silent. After the paroxysm, which is never so short as in spasma glottidis, the child falls asleep again, or, if the seizure has taken place during the day, returns to his occupations without preserving any of that sadness which persists throughout in true croup. In serious cases the paroxysms are as frequent as in croup, but the remissions are complete. In mild cases the symptoms all subside after an alarming attack, the voice is hardly altered; and the pulse is natural. On examination of the throat no false membranes can be detected, nor are the cervical glands enlarged. A simple catarrhal bronchitis follows, and the child gradually recovers. When the case terminates fatally—an uncommon occurrence—cyanosis becomes general, and death occurs after several attacks of suffocation.

**DROPSY AFTER SCARLET FEVER.**—Dr. Garrod, at the Westminster Medical Society, stated the result of twenty-five cases under his care, and that he had found albumen in the urine in every case at an early period of its course; and he had also detected urica in the blood in every instance. He considered that the complaint was dependent on derangement of the functions of the kidneys, analogous to what occurred in Bright's disease. No urica could be detected in healthy blood, and the dropsy must depend either on this, or some other abnormal substance present with it in the blood. The complaint appeared about three weeks after the disappearance of the rash. He had treated these cases by depletion or counter-irritation over the region of the kidneys, and by diaphoretics, and the patients had all recovered. He considered that a tonic plan of treatment was injurious, if resorted to as a general rule of practice.

**NEW TREATMENT OF SCARLET FEVER.**—Dr. Schneemann, Physician Royal, and Member of the Medical Council at Hanover, has, in his recent work on scarlet fever, proved the inefficacy of all the remedies hitherto employed against this malady. His new and simple mode of treatment, tested by experience, consists in not allowing the patient, who continues his usual diet, to go to bed, in having the sick-room frequently ventilated; and chiefly in rubbing the body with bacon several times a day. This is the whole system, which is said to have worked astonishing cures!!!—*Hamburgische Beobachter*, Feb. 1846. —From *Aris's Birmingham Gazette*.—(Fudge!—ED.)

**ATROPHY AND DENTITION.**—Dr. West, in his admirable lectures on the diseases of children, now publishing in the *Med. Gazette*, notices, in the No. May 19, that atrophy is not a special disease, but a condition that may be induced by various causes. Dr. West's observations on aphthae are highly interesting; perhaps he insists too much that aphthae is caused by artificial feeding, whereas we have frequently seen it where no artificial food was employed, and where we attributed it to the frequent inhalation of an unwholesome air, caused by covering the child too much over the head with the bed clothing. We quite agree with Dr. West, that when this state of matter exists it is quite



as necessary to attend to the constitutional as local treatment. Solutions of borax soda, and when that is inefficient, the nitrate of silver will be found sufficient as local applications, and for constitutional remedies it requires more extensive consideration, as in many apthous cases an impaired nutritive process may be suspected. Dentition is also a very general term, including many forms of disease of the digestive and assimilating organs. As regards scarifying the gums in teething, we think with Dr. West, it is far too often practised where it is not called for; and that there are cases where it not only does no good but harm, *there is no doubt*.

**PHYSIOLOGY AND PATHOLOGY.—ACTION OF ERGOT OF RYE.**—M. Piorry read, at Académie de Médecine, Paris, a memoir by M. Arnal, on the Action of Ergot of Rye, and its employment in Internal Hæmorrhages. M. Arnal affirms that ergot contains a poisonous principle not soluble in oil or ether. He considers the powder to be the most potent preparation, and recommends it whenever the extreme action of the medicine is required. The infusion is best in midwifery. The first toxic action of ergot is exercised upon the intestinal canal, in which it gives rise to an inflammation *sui generis*, with lesions not unlike those seen in typhoid fever. Ergot exercises also a notable alteration in the composition of the blood, rendering it more diffuent. When taken for a time it induces a condition resembling scurvy. It diminishes the force and frequency of the cardiac pulsations, to which action he attributes its hæmostatic powers in active hæmorrhages. The watery extract has diuretic properties. He recommends its use in pneumonia, especially where active depletory measures are inadmissible.

**SPONTANEOUS AMPUTATIONS IN UTERO.**—Professor Simpson exhibited a number of specimens of this curious phenomenon to the Obstetric Society of Edinburgh. Among the rest was a girl that was eleven years old, who was born wanting the left upper extremity from just below the elbow joint.—*Monthly Journal Medical Sciences*, 1848.

**MISCELLANEOUS INTELLIGENCE.—ANALYSIS OF HUMAN MILK.**—Dr. Griffiths made analyses to determine the proportion of carbon, nitrogen, hydrogen, and oxygen in milk. The conclusion is, that milk appears richer in carbon and hydrogen during the earlier periods of lactation, whilst the nitrogen undergoes but little variation. The latter statement is not in accordance with that by Simon on the proximate analysis of the milk at different periods; he found the proportion of caseine increased towards the later periods; but the process adopted was not free from fallacy. Since caseine dried at 212° F. contains 15.9 per cent. of nitrogen, 2 per cent. of this would correspond to 12.5 of caseine per cent. of solid extract. The average amount of extract is 11.0 per cent. of the milk; this is stated to contain on the average 3 parts of caseine, or 27.2 per cent., which corresponds to 4.3 per cent. of nitrogen in the solid extract, whereas the average amount obtained is less than 2 per cent. (by Schlossberger still less). Hence appears an inconsistency between the results of the proximate and ultimate analyses. The amount of caseine by proximate analysis varies according to the method adopted. When the butter is removed by ether, and the sugar and extracts by water, the proportion of caseine found is less than when the sugar, &c., are removed by alcohol. The former method, however, gives results which are more nearly in accordance with those obtained by ultimate analysis than the latter.—*Chemical Gazette*.

**ÆTHER AND CHLOROFORM.**—M. Gruby also read at the Academy of Medicine Paris, an essay on the "Modifications of the Blood by Chloroform." According to him, chloroform, so far from rendering arterial blood of a venous hue, actually increases its arterial tint. M. Bouisson's essay on the "Comparative Merits of Æther and Chloroform," commences by stating his conviction that chloroform will not replace æther, but that both have their drawbacks as well as advantages. He does not think chloroform suitable to prolonged operations, but prefers it in those of short duration. In lengthened operations he places great confidence in æther. M. Velpeau disputed these opinions, affirming that chloroform ought in all cases to be preferred, on account of the rapidity of its action, and the freedom from excitement generally exhibited by patients under its influence.

**MEDICATED PESSARIES.**—One of the earliest means of treating diseases of the uterus and vagina by medicated pessaries, has of late been revived. Professor Simpson is in the frequent habit of using them with great advantage. A variety of compositions are commonly sold in Edinburgh; for instance: 1st, **ZINC PESSARIES.**—℞ Oxydi Zinci ʒi., Cere Albe ʒi., Axungie ʒvi. m. div. in massas. iv. 2nd, **LEAD PESSARIES.**—℞ Acet: Plumbi ʒi., Cere Albe ʒi., Axungie ʒvi. m. div. in iv. 3rd, **MERCURIAL PESSARIES.**—℞ Ungt: hydr: Fort ʒii., Cere Flavæ ʒii., Axungie ʒi. m. div. in iv. 4th, **IODIDE OF LEAD PESSARIES.**—℞ Iodidi Plumbi. ʒi., Cere Flavæ ʒv., Axungia ʒvi. m. div. in iv. **TANNIN PESSARIES.**—℞ Tannine ʒii., Cere Albe ʒx., Axungia ʒvi. m. div. in iv. **ALUM AND CATECHU PESSARIES.**—℞ Sulph: Aluminis ʒi. Pulv: catechu ʒi., Cere Flavæ dr i., Axungie dr v., m. div. in iv. **BELLADONNA PESSARIES.**—℞ Ext: Belladonna ʒii., Cere Flavæ dr iʒ, Axungie, dr vi., m. div. in iv. The pessaries are about the size of walnuts, and can be easily introduced by the patients themselves, and repeated once or twice in twenty-four hours. After being made up into the required form, they were usually coated by the druggists with a firmer covering by dipping them into an ointment made up with wax and resin, kept just liquid by heat. It is scarcely necessary to state that where such applications are indicated, they are preferable to lotions, since the contact of the latter can only be very short in comparison to the former. The use of these agents is likely to become very extensive in various forms of disease, for instance, in ulcerations of the os and cervix uteri, or indurations, *mercurial or iodine preparations* can be applied for weeks with great benefit. They fulfil another indication, also, in *irritation and inflammation* of the mucous membrane; they prevent the surfaces from coming in contact, a matter of great importance.—*Monthly Journal Med. Sciences*, 1848.

AN ESSAY ON THE EPILEPTIC FORM OF PUERPERAL CONVULSIONS, BEING AN ATTEMPT TO ELUCIDATE THE NATURE AND TREATMENT OF THE DISEASE, BY AN APPEAL TO ANATOMY, PHYSIOLOGY, AND PATHOLOGY.—  
 BY JOSH. THOMPSON, M.R.C.S., LONDON, CONSULTING SURGEON TO THE UNION HOSPITAL, HONORARY SURGEON TO THE GENERAL DISPENSARY, NOTTINGHAM. 12MO. NOTTINGHAM: B. OLIVER, pp. 74, 1848.

The pamphlet before us will require some space to notice, the subject being one of importance, treated with considerable ability, and offering some new and very interesting views to the profession. The substance of this essay arose from an extremely dangerous case falling under the care of the author, by which it is evident he has profited himself, and it is hoped his valuable observations will be of equal interest to the profession at large. Passing by the usual arrangement of such cases, and the statistics of puerperal convulsions, which have generally been estimated to be about 1 in 485, the author states that "*when the disease is fully developed, it is attended by a total abolition of consciousness, and indeed of the whole psychical functions, as well as a fearfully convulsed state of the whole muscular system. Sphagiasmus, laryngismus, and odaxismus, may all be present, though not necessarily all, as I shall afterwards show. It will also be my object to prove that, however much the cerebrum may suffer, the muscular phenomena which are produced depend in no wise upon it, but solely and entirely upon an affection of the true spinal system.*" The author then divides the subject into the symptoms, causes, pathology, diagnosis, prognosis, and treatment. It will not be necessary for us to go through the section of symptoms, it will be sufficient to state that the author carefully quotes all the best known authorities. The principal premonitory symptoms are violent headache, giddiness, confusion, slight delirium, ringing in the ears, deafness, loss of sensation, rigors, drowsiness, failure of sight, slow full pulse (Locock), stammering, increased sensibility of the uterus (R. Lee), rapid contraction and dilatation of the iris (Wigand), face flushed, eyes injected, hands and face tumid (Oslander), pain and sickness of the stomach, (Burns) &c.; others are noticed from the writings of Copland, Blundell, Ramsbottom, Duges, Churchill, &c. The section on causes is short and to the purpose. Hereditary predisposition, mental emotions, frights, &c., intemperance, sympathy of the brain with some existing irritation, pressure of child, pressure on aorta, exertion in labour, distended bladder; of Dr. Collin's cases they were chiefly young women, first children; of Merriman's 36 cases 28 were first labours; luxurious indulgence, too rapid distention of uterine fibre, of which some authors think there is a greater liability in twin cases. The author then proceeds to explain the distinction between *cerebral* and *spinal* symptoms, to the understanding of which the anatomy and physiology of the cerebro-spinal system is requisite. "*The cerebral system is the seat of the emotions, passions, and sensations. There is good reason for supposing that the medulla oblongata is the more especial seat of these faculties, the cerebrum being the organ of the psychical, and the spinal marrow of the physical functions. Remove cerebrum*

and cerebellum, and still parts give an expression of pain. The medulla oblongata is the central organ of the psychical and excito-motor phenomena, differing from the cerebrum in having the latter faculty, and from the spinal marrow in having the former. The true limits of the excito-motor power have been accurately determined by M. Flourens, who has established the great physiological and pathological principle "*That no physical irritation of the cerebrum, or cerebellum, or of the purely cerebral nerves, or indeed of any part of the nervous system, except the spinal marrow and the muscular nerves, can produce muscular action.*" Dr. Carpenter also states that injuries of the cerebral substance do not excite pain or convulsive motion; even the *Thalami optici* and *corpora striata* may be wounded without convulsions; but when the *tubercula quadrigemina*, or medulla oblongata is injured, convulsions uniformly occur. No injury or disease of the cerebrum can cause convulsions, and when such do occur, it is a proof that the spinal system has become implicated. Thus there may be confusion, delirium, ringing in the ears, deafness, loss of sensation, drowsiness, failure of sight, loss of consciousness, &c., yet all these symptoms are dependent on the state of the cerebrum. But when stammering, rolling of the eye-ball, rapid contraction and dilatation of the iris, twitching of the muscles of the face, &c., indeed all the muscular phenomena are of spinal origin.

Before speaking of the *modus operandi* of the causes, the author enters into the anatomy and physiology of the ganglionic system, its mode of connexion with the cerebro-spinal, and its dependence on the latter for its sensitive and motor endowments, and likewise the manner in which it is affected by the emotions and passions; he also points out how the mucous surfaces are brought into relation by nervous connexion with the cerebro-spinal system. In these views he is supported by Müller, Retzius, Mayer, Wutger, Volkmann, &c. The existence of distinct sensitive and motor fibres would lead us to expect special fibres to rule over the vegetative processes of the body. The nerves have a marked influence on secretions, and if there were but one kind to regulate motion and chemical processes, increased secretion would be attended with spasm, and *vice versa*; but the two phenomena are met with separately, just as paralysis occurs without loss of sensation, also loss of sensation without loss of motion. From many circumstances we may perceive that the organic fibres in the cerebro-spinal, as well as the ganglionic nerves, have the function of regulating the organic processes of nutrition and secretion. This is confirmed by the fact, that the sympathetic receives from the roots of the spinal nerve motor tubular fibres, on which the involuntary motions must be dependant. If this be really the function of the organic fibres, the motor nerves of the heart ought to consist principally of white tubular fibres, and such is in fact the case (as stated by Müller, vol. i., p. 724).

The author then, with considerable ability, enters minutely into the scientific question of the connection of the sympathetic nerve with the cerebro-spinal system; and lastly, refers to the fact of the parts contained within the pelvis, more particularly the rectum, being supplied with nerves from the lower part of the medulla spinalis, and of the stomach and thoracic viscera being supplied by the *par vagum*, which takes its origin from the medulla oblongata, which

the author supposes establishes the connection between the different mucous surfaces, the whole of the viscera thoracic and abdominal, and the cerebro-spinal system. If so, says the author, it will at once explain "how a distended and irritated bladder and uterus, rectum, stomach, and intestinal canal, may through the incident excitor nerves produce increased action on the nervous centres, as to be reflected through the reflex motor fibres upon the muscular system. The medulla oblongata is therefore the connecting medium between the cerebrum and medulla spinalis; it has the psychical functions of the one and the excito-motory power of the other. Thus the emotions and passions will operate in predisposing to puerperal convulsions from the sympathy which exists between the encephalon and the viscera. Again, the medulla oblongata is the centre of the reflex power, so the pneumogastric nerve from it conveys irritation to the larynx, so as to close it; hence follows laryngismus, then odaxismus, and sphagismus, if it has not already occurred; commonly the latter precedes odaxismus. The blood retarded in its return by the muscles of the neck, laryngismus will follow, respiration suspended, convulsions occur, and odaxismus; the pressure also prevents arterial circulation, and tends to congestion of the brain, fatal if not immediately relieved. In a violent attack, the bowels, bladder, and sometimes the uterus is emptied of its contents, consciousness being entirely abolished. That pregnancy tends to produce this disease is not surprising, the increased development of uterine tissue requiring increased supply of nervous influence, thus the medulla spinalis has an increased development opposite the brachial plexus, and elsewhere where a larger nervous supply is demanded. The impregnated uterus has some important sympathies, viz., stomach, mammary glands, &c.: this disease may be esteemed peculiar to the pregnant condition. Lastly in the chapter of causes, the author remarks on the state of the pupil. That the contraction of the pupil is caused by the stimulus of light falling upon the incident excitor branch of the optic reflected back upon the iris by the third nerve. In tracing the parts supplied by the third nerve, the author states, its influence, and that of the nasal nerve on the iris deserves special consideration. Galvanism to the third nerve causes contraction of the iris.—*Vide DEMOULINS, FOWLER, REINHOLD, NYSTEN, and MAYO.* Nine experiments are here related by the latter author confirmative of these views. The author then concludes that the contraction of pupil depends on motor influence derived from the third nerve, and whether the dilatation results from an active contraction of the radiated fibres of the iris or not, a morbid reflected irritation along the third nerve during convulsions brings on "*a rapid contraction and dilatation of the pupil.*" Further confirmation of these views is found recorded by VALENTIN, PETIT, MOLLINELLI, ARNOLD, REID, &c. To say the iris is influenced by filaments from the sympathetic removes the difficulty only further off, for the latter depends upon the motor and sensitive endowments, entirely upon the cerebro-spinal system; and again, the connection established between the third, fifth, and sympathetic, is altogether different from that formed at the roots of the spinal nerves.—*Vide Müller's Physiology, vol. 1, page 827.*

(A further Notice of this Work in No. 14.)

ON THE DIAGNOSIS AND TREATMENT OF RETROVERSION OF THE UNIMPREGNATED UTERUS.—By J. Y. SIMPSON, M.D., PROF. MIDWIFERY UNIV. EDIN., PHYS. ACCOUCH. TO THE QUEEN IN SCOTLAND. OCTAVO. P.P. 32. DUBLIN: 1848.

The pamphlet before us is a reprint from the Dublin Quarterly Journal of Medical Science for May, 1848, and another proof of the industrious energy and practical usefulness of the worthy Professor's exertions. The question of Retroversion, Retroflexion, &c., of the uterus is not so rare as many have supposed, in fact the author proves the rarity to have arisen from the want of an easy mode of detecting it, in the same manner as affections of the lung and kidney are now found to be more frequent from the efficient labours of Laennec and Bright.

Prof. Simpson premises that, in the normal state, the long axis of the uterus is in a line parallel with the line of the axis of the brim of the pelvis, as in fig. 1st of the following outlines:—



But the fundus uteri may be turned downwards and forwards, or downwards and backwards. In fig. 2 it is downwards and forwards, constituting ANTI-VERSION. In figures 3, 4, and 5, it is downwards and backwards, constituting RETROVERSION. The three latter figures represent different degrees of this displacement. Fig. 3, an aggravated degree of *Retroversion*, showing how the rectum is interfered with. (*Opuscula Posthuma Frank*, p. 78).

Some writers have attempted a distinction between the forms of displacement figures 4 and 5, describing fig. 4 as *Retroflexion*, and fig. 5 as *Retroversion*. In the former the fundus uteri only is displaced, in the latter the whole organ is displaced. In the living subject is to be found a great variety of these displacements, which are unnecessary to define, the author designating them under the generic term *Retroversion*, which will be the specific object of this paper.

Retroversion of the unimpregnated uterus has been considered by English writers as a very rare disease, an opinion evidently incorrect. Dr. Simpson has found it to be one of the most

common and most frequent displacements of the uterus, and hence the promulgation of this fact, it has been amply verified by Drs. Rigby and Petheroe Smith, of London (see *Monthly Journal* for 1843, p. 660).

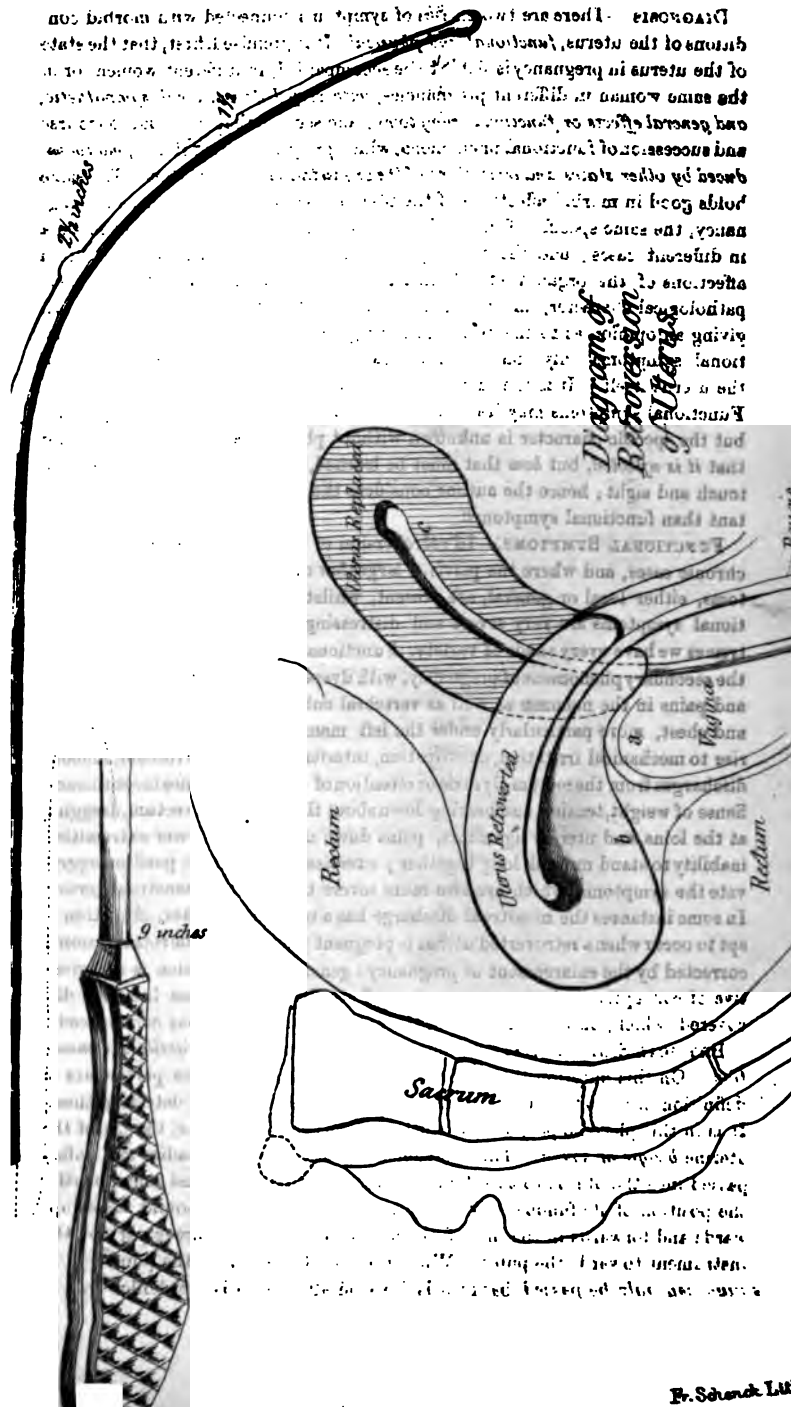


**DIAGNOSIS.**—There are two classes of symptoms connected with morbid conditions of the uterus, *functional and physical*. It is premised, first, that the state of the uterus in pregnancy is liable to be accompanied, in different women, or in the same woman in different pregnancies, with *very different local, sympathetic, and general effects or functional symptoms*; and second, that the usual concurrence and succession of functional phenomena, which pregnancy gives rise to, *may be induced by other states and irritations of the organ than utero-gestation*. The same holds good in morbid affections of the uterus. In uterine disease, as in pregnancy, the same specific affection of the organ excites very different phenomena in different cases; and the same specific phenomena frequently result from affections of the organ that are entirely at variance with each other in their pathological character, in their course, and in the treatment required. In giving an opinion as to the existence of pregnancy, we are not decided by functional symptoms only, but by an accurate local and physical examination of the uterus itself. It is the same in respect to the pathology and treatment. Functional symptoms may lead us to conclude that uterine disease is present, but the specific character is unknown without physical examination; it is not that *it is affected*, but *how* that must be learned, by the careful employment of touch and sight; hence the author considers the physical signs as more important than functional symptoms.

**FUNCTIONAL SYMPTOMS.**—In retroversion of the unimpregnated uterus in chronic cases, and where the pelvis is large, few or no marked functional symptoms, either local or general, are present, whilst in other instances the functional symptoms are very severe and distressing, and between these two extremes we have every shade of variety. Functional symptoms strongly resemble the secondary phenomena of pregnancy, with dyspeptic and hysterical symptoms, and pains in the mammae as well as vertebral column, parietes of the abdomen and chest, more particularly under the left mamma. The displacement gives rise to mechanical irritation, constipation, interference with the rectum, mucous discharges from the rectum, dysuria or retention of urine, sometimes incontinence. Sense of weight, tension, and bearing down about the uterus and rectum, dragging at the loins, and uterine ligaments, pains down one or both lower extremities, inability to stand or walk long together; exercise and the erect position aggravate the symptoms, which are also more severe towards the menstrual period. In some instances the menstrual discharge has a morbid character. Abortion is apt to occur when a retroverted uterus is pregnant; sometimes the retroversion is corrected by the enlargement of pregnancy: generally retroversion is a preventive of conception. In supposed cases of sterility retroversion has been discovered, which, on being corrected, the aptitude to conceive has commenced.

**PHYSICAL SIGNS OF RETROVERSION.**—Are ascertained by *Tactile Examination*. On this question the author enters at length, giving the particulars of definition of the various displacements, and the best mode of detecting them. It is in this place he proposes, as a better means than the finger, the use of the uterine *bougie or sound*. This instrument (plate 1) can be readily and safely passed into the uterus to ascertain the direction of its cavity, and consequently, the position of its fundus. When normal, the point of the sound *passes upwards and forwards* in the line of the umbilicus, and the *concave part* of the instrument towards the pubis. When there is Retroversion, the point of the *sound can only be passed backwards horizontally, towards the hollow of the*

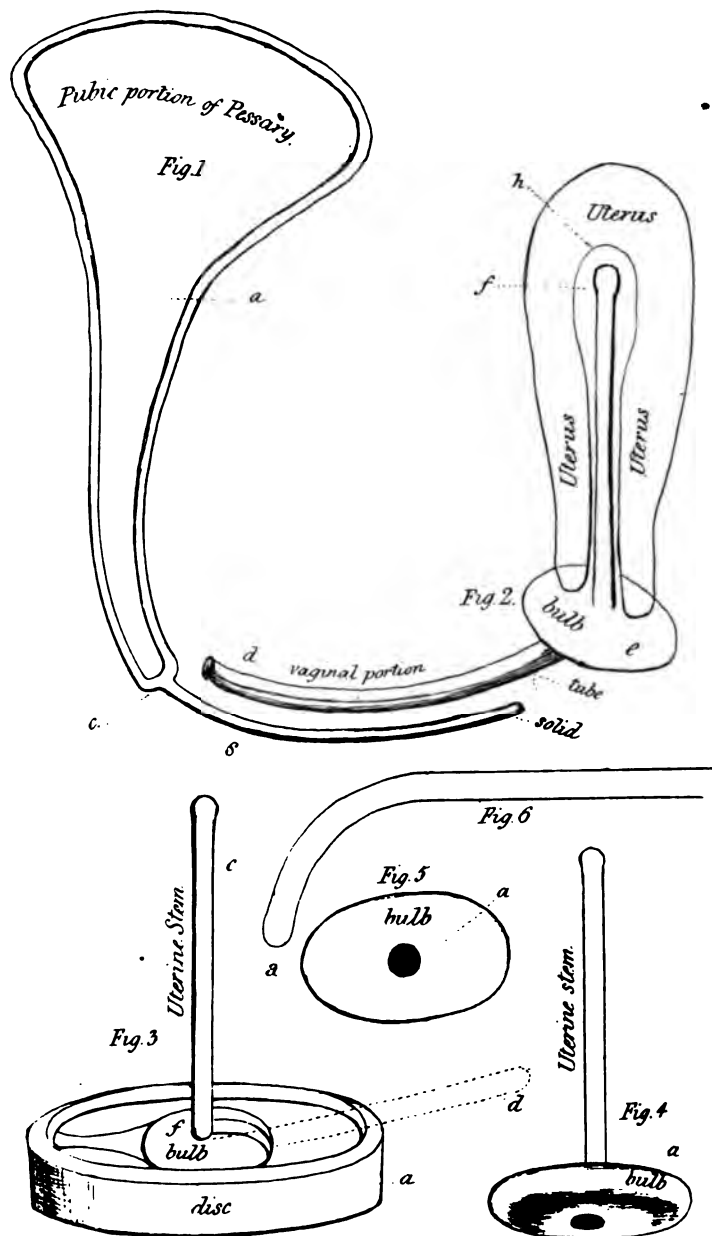
# Plate 1. *D. Simpson on Retroversion.*







*Plate II. Pessaries for Retroversion &c. (Reduced Size)*



1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 2. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 3. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 4. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 5. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 6. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 7. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 8. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 9. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).  
 10. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).

1. The first step is to identify the problem or goal. This involves understanding the current situation and what needs to be achieved.

sacrum, with the rough part of the handle towards the sacrum instead of the pubis, and on examination by the finger the point of the instrument is in the centre of the tumour. By turning the bougie round we can replace the uterus, or retrovert it again at will; when replaced in its normal position, the uterus may be felt under the parietes in front (see plate 1).

**TREATMENT OF RETROVERSION.**—When recent, and occurring after straining, congestion, inflammation, or subsequent to delivery, mere replacement of the organ, by the bougie or finger, will suffice, with the recumbent position, a little on one side, preventing over distension of the rectum and bladder, and reducing any local congestion, or inflammatory state present. It will also be necessary to restore the local tone of the relaxed soft structures by astringent vaginal injections, or medicated pessaries of oak bark, tannin, iodide of lead, &c. Simple means are not, however, always sufficient; besides replacing the organ by the bougie, it is sometimes necessary to keep it in a natural position by the uterine pessary. Dr. Simpson describes three kinds or modifications of uterine pessary made of German silver, which may be worn from two or three weeks to as many months. Their employment will cure many, *but not all cases*, yet considerably improve the worst. The first form (plate 2, fig. 4) is a stem of 2½ inches long to introduce into the uterine cavity, and a bulb for the lips of the os uteri to rest upon. On the lower surface of the bulb (fig. 5) is an orifice into which is introduced the end of a handle (fig. 6) about eight inches long, by which means the pessary is fixed. It is more useful in *Ante* than *Retro* version; it is not easily retained above a few days, from the relaxation of the canal and cervix allowing it to escape. It is useful in dilating strictures of the cervix. The second form (plate 2, fig. 3) has a similar stem and bulb, and in addition a large ovoid disc (a) 2½ in length, 1½ inch broad, and half an inch deep. The uterine stem (c) is moveable from the position (l.c.) to (f.d.) This is to facilitate the introduction of the instrument. On the lower surface of this instrument is a spring catch to hold the stem upright after its introduction, and can be unlocked by the finger nail when withdrawn. This disc retains its place in the vagina—keeps the uterus fixed; but where the displacement is extreme, even this form of pessary is inadequate to preserve the normal position of the uterus. The third form is composed of two parts first, an *internal* (fig. 2, plate 2) having a stem (f.) and bulb (e.) like the two last forms, with the addition of a tubular vaginal portion (d); secondly an external part (fig. 1). A framework to maintain the internal portion *in situ*. This external part is five inches long, expanding from half an inch at the lower to three inches at the upper part. From the vaginal extremity projects at right angles a flat stem (e) fitted to slide into and fix in the corresponding open tube (a) attached to the bulb of the internal half of the instrument (b): in the plate, the uterus (f) is shown with the stem of the pessary in it. The internal half of the instrument is introduced first, and by it, the uterus placed *in situ*. Then the external part is locked to it, and bent and moulded so as to fit to and fix upon the pubis.

The causes of Retroversion are not entered into by the author. The pamphlet finishes with some interesting observations on the early literature of this important question. We beg to thank Dr. Simpson for his kindness in sending us the plates for illustration.

ESSAY ON THE EPILEPTIC FORM OF PUERPERAL CONVULSIONS.—By J. THOMPSON, ESQ., SURGEON, NOTTINGHAM.

(Continued from our last, page 68.)

The fourth section of this work treats of the pathology, which has hitherto been wrapped in great obscurity. The author quotes the opinion of Collins, Hamilton, Lee, Denman, Ramsbottom, Gordon, and others. To shew the uncertainties of this question, Dr. Hamilton concluded that "in fatal cases, the uterus *had burst*, or that there is great *turgescence* of the vessels, or an effusion of serum within the cranium. Dr. R. Lee observed unusual redness and softening of the cerebral substance, and general congestion of the brain, whilst in others no such appearances could be detected. Dr. Gordon found nothing to account for the symptoms. Dr. Ramsbottom found in one case, injury of the head sufficient to account for it, but in others no such derangement, and concludes that the whole train of symptoms evinces considerable derangement in the functions of the brain and nervous system, though not met with correspondent marks of mischief after death. Dr. Merriman observes, as to post mortem enquiries, "*conflicting statements have been given*." Dr. Denman never saw an effusion of blood on the brain, although Hewson and Hooper mentioned to him cases where such existed. The additional evidence of Ley, Cruveilhier, Bontilleux, Blundell, Jenner, Locock, Davis, Lee, Burns, is of the same conflicting character as to post mortem appearances. The author then observes:—

"Thus have I endeavoured to bring before you, the post mortem appearances of this disease, as well as the different opinions regarding the proximate cause; and I now wish to re-direct your attention to the former, that you may perceive how contradictory the results of the investigations of the morbid anatomist: then I will ask, is it not absurd to suppose that the disease depends upon lesions so various and uncertain as those described! particularly when it is considered that, in many instances, nothing whatever has been discovered to account for death? Ought we not rather, to consider all those changes as the effects, and not the causes of the violent convulsions! As regards the efficient or proximate cause of puerperal convulsions, I have already proved that no injury, irritation, or disease of the cerebrum or cerebellum can cause convulsions, so long as the true spinal system is not implicated. This will be a sufficient answer to those authors—Locock, Davis, Lee, Hamilton, &c., who attributed the disease to congestion of the brain, or some other affection or condition of that organ, brought about by distant irritation in the uterus, or in the digestive organs, &c. To say that the disease "is in some cases induced by a peculiar irritability of the nervous system," and such like expressions, is so indefinite as not to require an answer. Dr. Blundell believes 'that the more probable and immediate cause is pressure on the brain, and *perhaps* on the spinal marrow also.' To this I reply, that pressure on the brain alone is incapable of producing convulsions, and that such pressure, even if it extended to the spinal marrow (an opinion expressed with *great doubt*), must be admitted, to be an effect, rather than a cause, of the disease. Dr. Copland is in error, in supposing that 'irritation, or organic change of

any of the parts contained within the cranium, will also occasion convulsions,' as the cerebrum and cerebellum must be looked upon as an exception to this assertion; neither can I subscribe to the opinion, 'that convulsions arise from some change in the state of circulation within the cranium, and that such change may be either *active cerebral congestion*—in some cases connected with general plethora, but in others not thus associated, and, even in a few, accompanied with a marked deficiency of blood;' for although I am willing to admit that convulsions may be associated with both these conditions of the brain, yet they cannot be considered as efficient causes of the disease. Again, how the seizure can 'chiefly depend upon irritation, in some manner induced in the organic nerves, and through them in the spinal nerves,' without first reaching the spinal marrow, and then being reflected along the motor fibres, I am at a loss to conceive; indeed, such an opinion appears in direct opposition to the received anatomy and physiology of the ganglionic system, and its connection with, and dependence upon, the cerebro-spinal.

"Having rejected the opinions of others, you will naturally ask what I consider to be the proximate cause of puerperal epilepsy, antecedent to which I must premise, that in addition to the post mortem appearances, there is, in connection with this disease, as with all others, what may not inappropriately be designated a living pathology. To illustrate this, contemplate the healthy functions and condition of the mucous surfaces,—indeed of the whole of the viscera contained in the thorax, abdomen, and pelvis—especially in the two latter: the manner in which they are connected with the cerebro-spinal system below, by nerves from the lower part of the medulla spinalis, above by the par vagum, from the medulla oblongata and elsewhere by the ganglionic system—the healthy functions of these two systems. Then perceive with what order and regularity everything is carried on under those laws. From this let your consideration be directed to the phenomena of the epileptic seizure; perceive how the physiology has become changed into pathology; where the former terminates, the latter begins. This is equally true of all diseases, and every symptom which the physician observes can only be considered as a living manifestation of disease. There can be no question that the proximate cause of puerperal convulsions consists in a morbid irritation of the whole centre of the true spinal system, more especially of the medulla oblongata propagated to it from all the parts, more particularly the mucous surfaces and viscera contained in the abdomen and pelvis, along excitor nerves, which proceed directly—first, to the lower part of the spinal marrow—second, to the medulla oblongata, along the pneumogastric—and third, more indirectly, to the intervening part along the excitor fibres of the ganglionic, which reach the centre through the roots of the spinal nerves, and reflected from it upon the muscular system, including\* the heart, intestinal canal, bladder, uterus, &c., along the reflex motor fibres, so as to enable us to give a rational explanation of all the phenomena and circumstances connected with the disease. It will enable us to account for the twitching of the muscles of the face, the contractions of the muscles of the neck, the spasmus, \* the laryngismus caused through the par vagum, the total suspension of respiration, the frightful

\* The abolition of consciousness, the cerebral symptoms, and the withdrawal of volition from the sphincters.

convulsions of the whole body, the *odaxismus*.—When it is recollected that the reflex power travels through the roots of the spinal nerves along the fibres which are given off to the sympathetic, and proceed to the contractile viscera, the expulsion of the urine and feces, the tetanic contraction, or rupture of the uterus, is easily explained; so also is the empty state of the heart, which has been mentioned as a post mortem appearance, more particularly when we know that the latter organ is also supplied from the pneumogastric. The fact of a patient dying of suffocation during a fit, of nothing being found on examination in some cases, and such variable lesions in others, now admits of an easy solution. The post mortem appearances must be regarded as the effects, and not as the causes, of the disease, and will be found to depend upon, and vary according to, the violence, number, and duration, &c., of the convulsive paroxysms. Before the proximate cause comes into full operation, there can be no doubt that the whole nervous system has been, by the influence of certain powerful predisposing and exciting causes, brought into a state of great excitability, and ready to be acted upon by any morbid irritation. But I must proceed at once to settle the question whether the cerebral symptoms, the loss of consciousness, &c., precede, accompany, or follow the convulsions; and whether *sphagismus*, *laryngismus*, and *odaxismus*, occur in the order in which I have named them. *Odaxismus* is not always present, but when it is, it is always last in the sequence. *Laryngismus* is always present when the attack is fully developed, and always occurs second, except perhaps, in some other diseases, such as the *laryngismus* of infants. *Sphagismus* is the first to occur, but the disease, as I shall afterwards show, may be cut short before complete *laryngismus* takes place. I more particularly wish you to notice this, because convulsions of the kind I am now describing never happen until *laryngismus* has ensued; and although it is easy to answer affirmatively that loss of consciousness always precedes convulsions, it does not follow that it does not succeed to the first spinal act which takes place in this disease. I believe that it does, but I must explain:—when the disease commences, and the morbid irritation of the spinal marrow is being reflected upon the muscular system, the muscles of the neck are amongst the first to contract (in consequence of receiving nerves from the upper part of the spinal marrow, and the medulla oblongata, which I have said is more especially the seat of this disease). The veins of the neck are compressed, the blood is prevented by this, and other causes, from returning from the head, abolition of consciousness, &c., follows. But some persons may argue, that loss of consciousness is the result of congestion of the cerebrum, and that this may be so great as to compress the medulla oblongata, and cause not only an abolition of the mental functions, but the convulsions also. To this I answer, that although a congested state of the brain might cause a loss of consciousness, it is itself an effect, and not a cause of the disease. And, that all necroscopic investigations are adverse to such an opinion: further, that such violent pressure would be more likely to produce a paralyzing effect."

DIAGNOSIS.—The author describes this affection to be of the nature of epilepsy, except that it is not preceded by the "*aura-epileptica*," and the fits are more frequent in a given time than in ordinary epilepsy. There are some minor differences that are not necessary to dwell upon. One form of convulsion

consequent on great loss of blood, is distinguished by the pallid countenance, cold surface, imperceptible pulse, and violent protrusion and retraction of the tongue. From hysteria, it is known by occurring always after the sixth month of pregnancy,\* and mostly after the seventh or eighth month. Hysteria being somewhat uncommon during gestation, Dr. Hamilton points out the total insensibility as distinguishing the disease from hysteria. When laryngismus and odaxismus occur, the case is decidedly epileptic. From apoplexy the epileptic attack is distinguished by the violent and quickly-repeated spasms, with short intervals of quiescence, and occasional gleams of sense, and the breathing rather sibilant than stertorous.

PROGNOSIS.—From a collection of 152 cases from various writers, 42 died. Dr. R. Lee states, in 54 cases 13 died. It is evident that formerly this disease was much more fatal than it is now: probably from the treatment being more energetic. It is at all times a disease of danger; one of the most unfavourable symptoms is a permanently dilated and insensible state of the pupils, more particularly when one is more dilated than the other.

TREATMENT.—Cannot be conducted to a favourable termination, unless based upon a correct knowledge of the remote and efficient causes of the disease. Blood-letting is agreed upon by all authors as the great means of relief, and they only differ as to the extent to which it ought to be carried. As a general rule, 40 ounces ought to be taken the first bleeding, and 20 or 30 more if necessary; Hamilton says 50 ounces; Blundell 40, 50, or 60 ounces; Davis from 50 to 60 ounces; Rigby 25 ounces; Burns several pounds in a short time; Lee, Locoek, Copeland, "very copious bleedings;" and Denman 40 ounces. The blood should be abstracted quickly, but it is not desirable to produce syncope. Head shaved, and ice poultices applied to it; mustard cataplasms to the feet, calves of the leg, and nape of the neck; 20 grains of calomel with two drops of croton oil should be given; injections of warm water per anum: half a grain of antim: tart: every half hour. When the bowels have been evacuated, the antim: tart: to be continued, and if the convulsions continue, turpentine and assafetida, enemata, and even opium, if the bleeding has been extensive, and where the nervous irritation is extreme. Hamilton and Copeland advise camphor in large doses; Denman, Mauriceau, and Chaussier recommend emetics; Hamilton condemns them, except after blood-letting, and when the attack is attributed to improper ingesta, which is the opinion of Blundell. If the labour has been completed, this treatment may be effected, but care should be taken that an over loss of blood be not equally fatal, producing aberration of intellect, pain in the head, pallor, and insomnia: such occurring, the severity of treatment must be relaxed, and beef tea, sago, yolk of egg, &c., substituted: an anodyne at bed-time, and the following draught every four hours:

R. Spt. Ammon:  $\mathfrak{m}$  xx

Tinct Opium:  $\mathfrak{m}$  v

Sesqui Carb: Sodæ grs xv

Mixt: Camphoræ f ʒiſs.  $\mathfrak{m}$  ft Haust.

This, with occasionally a little wine, or brandy, according to the state of the case, will in general be sufficient. If the child be alive, it should be applied to the breast, to solicit the flow of milk; that, and encouragement of the



lochial discharge, will materially alleviate severe symptoms. With respect to interference with gestation or parturition, the author observes, that artificial delivery should never be thought of until free bleeding has been had recourse to, and where the parturient structures are in proper condition. There can only be one exception to this rule where the person has borne children before, and where the labour is rapidly progressing to a favourable termination. Drs. Hamilton and Collins agree, when artificial delivery is called for it ought to be done as rapidly as possible, provided it can be done without violence to the structure. The remaining pages of this truly excellent practical pamphlet are occupied by the opinions of a variety of authorities on points of practice, for which we must refer the reader to the work itself, which should be read by all.

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ON THE FUNCTIONAL DISEASE OF THE LIVER, ASSOCIATED WITH UTERINE DERANGEMENT.—BY BUTLER LANE, M.D., M.R.C.S.E., &c. LONDON. OCTAVO, pp. 32. 1848. H. BENSLEY, 356, STRAND, LONDON.

We notice this pamphlet with pleasure, as it fully bears out what must have occurred to the mind of every reflective practitioner, viz., that there is reason to suppose that diseases of the liver are generally associated with uterine diseases. There is a physiological and pathological relation between these two organisms the author endeavours to elucidate; he was led to this inquiry in consequence of the exhibition of the oxide of silver in uterine affections. In some menorrhagic affections he found the remedy demonstrated a most beneficial influence, whilst in other forms of the same disease it was powerless, and in some cases attended with disadvantage, but upon giving mercurial alteratives, the cure of the menorrhagic discharge was easily effected. He discovered that in these cases a congested and inert state of the liver existed, on the removal of which the uterine derangement disappeared. Hence the following propositions.

1. In a state of health, an anatomical and physiological relationship exists in the female between the *liver* and the *uterus*.

2. This relationship is apt to be disturbed in many forms of disease, primarily implicating either organ individually.

3. The disturbance in question, though varying in nature and degree, assumes certain definite aspects, the recognition of which serves much to direct and facilitate our therapeutic appliances.

The author then alludes to the excellent tables of Dr. John Reid, of the respective weights of the various organs, and brings the results of those tables to bear on the subjects under particular examination, viz., the *liver* and the *uterus*, which tables, though not formed for that especial purpose, yet add considerable strength to the author's positions.

The author then draws up a table of his own on the average weight of livers in the male and female, which also appears to confirm his views; nevertheless, we are of opinion that if this pamphlet is to be taken statistically, it is as yet

too limited in its inquiry, but it is highly valuable in directing attention to wider investigation.

At page 11, the author examines the nature of the secretions of the *liver* and *uterus*, and endeavours to show some affinity between the menstrual secretion and the portal blood, and still more between the menstrual fluid and the material taken from the portal blood to undergo biliary conversion, and from thence implies the probability of a physiological hepatico-uterine connection.

Having directed attention to these facts, he proceeds to state that menstruation rarely occurs without concomitant alvine arrangement. As bile is necessary to healthy alvine evacuation, so it follows, when the periodical excitement of the uterus occurs the liver will manifest some sympathetic influence. And thus the author proceeds through a train of reasoning to establish very distinctly both the physiological and pathological relationship between the two organs, which the reader will do well to peruse in full. This pamphlet contains about a dozen well drawn up cases illustrative of the above views, interspersed with appropriate remarks from some of our best writers. We think the pamphlet entitled to our praise, not so much for the amount of information it conveys, as for directing the attention of the profession to an important question, and we trust it will open a field for much wider enquiry.

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DER SPEICHEL IN PHYSIOLOGISCHE DIAGNOSTISCHE UND  
THERAPEUTISCHE BEZIEHUNG. EINE MIT ANMERKUNGEN  
VERMEHRT BEARBEITUNG, NACH S. WRIGHT, M.D., &c. WIEN, 1846.  
8vo., pp. 213.

HET SPEEKSEL UIT EEN PHYSIOLOGISCH, DIAGNOSTISCH,  
EN THERAPEUTISCH OOGPUNT BESCHOUWD. DOOR S.  
WRIGHT, M.D., NAAR DE HOOGDUITSCH BEARBEIDING VAN DR. S.  
ECKSTEIN, VERTAALD EN MET AANTEKENINGEN VOORZIEN DOOR F.  
RIENDERHOFF. AMERSFOORT. 1846. 8vo., pp. 220.

The above are the German and Dutch translations of the treatise on Saliva, which, as our readers know, was published some time ago by Dr. Wright, of Birmingham. As there is some probability of its reappearing in an English dress, we shall limit ourselves to a brief analysis of the volumes before us.

The work commences by tracing the derivation of the term Saliva. After considerable quotation and reference, Dr. Wright concludes that "the word is probably derived both from the Greek and Latin languages—the one being expressive of the manner in which the fluid is secreted and discharged; the other bearing an allusion to its saline constituents. Hence the Irish term *salim*, which signifies to drop or to distil; and the Welsh *salic*, from *adl*, "salt." Subsequent pages are occupied with the chemical history of saliva, and concluded by a detail of Dr. Wright's process for the analysis of saliva, with the results of several applications of it. Then comes the physiological history: after having traced this, from the days of Theophrastus downwards, Dr. Wright details a variety of experiments illustrative of the potency of saliva when injected into the arteries and veins. This leads to a variety of

other investigations, extensively diversified, in proof of the digestive properties of saliva. In his inferences from these, he divides the services of saliva, in the animal economy, into active and passive.

"The former are—1st, to stimulate the stomach and excite it to activity, by contact; 2nd, to aid the digestion of the food by a specific action upon the food itself; 3rd, to neutralise any undue acidity in the stomach by supplying a proportionate alkali. The latter—1st, to assist the sense of taste; 2nd, to favour the expression of the voice; 3rd, to clear the mucous membrane of the mouth, and to moderate thirst."

The remainder of the work, and indeed the larger part of it, embraces the pathology of saliva. Of the morbid varieties, Dr. Wright enumerates nineteen, each of which is distinguished by certain physical and chemical peculiarities, which are given in minute detail. The pathognomonic relations are then entered into somewhat elaborately, and the several remedial indications to be fulfilled, with instructions as to the therapeutical fulfilment of them. These are severally and exclusively placed under each variety of saliva, so as to be rendered quite easy of reference.

We have frequently referred with pleasure to the subjects contained in the above German and Dutch translations, whilst in course of publication in the *Medical Times* some time ago, and we can with great confidence recommend them to the profession as works displaying indefatigable research and industry on the part of the author. The physiological and pathological relations of the saliva form a subject of immense importance, and the treatment could not have fallen into abler hands than Dr. Wright's, and we have no doubt that his work will become one of standard reference to the profession. We are only sorry our arrangements will not admit of a more extensive notice.

#### RETROSPECT FOR JUNE, 1848.

PRACTICAL MIDWIFERY.—RUPTURE OF THE UTERUS.—A most elaborate statistical inquiry into the modes of practice most successful in the treatment of this formidable accident has been undertaken by James D. Traak, A.M., Brooklyn, New York, U.S., the first part of which valuable monograph is already published in the *American Quarterly Journal of Medical Sciences*, dated Jan. 1848. The monograph opens with the various opinions of the most esteemed writers. The author then proceeds to the collection of cases recorded by writers of all countries. These cases are analysed and tabulated under the following heads:—Age, health, condition, character of previous labour, nature of the labour, the duration, time from rupture to delivery, mode of delivery, time occupied in delivery, whether difficult or not, hernia of the bowels accompanying or not, time from rupture to death or recovery, post mortem appearances, presumed causes of rupture. Under this elaborate view he proceeds to classify the cases recorded, which amount to 303. *First*, 12 cases of recovery from rupture occurring during gestation. *Second*, 26 cases of rupture before the termination of the full period of gestation, which did not recover. *Third*, 79 cases of recovery from rupture at the full term of pregnancy. *Fourth*, 186

cases of rupture at the full term, proving fatal. So far as the paper at present extends, the amount of information is enormous and most carefully rendered. The next communication will embrace the symptoms, proximate and remote cause, its pathology, and the most successful mode of management, as exhibited in by-gone experience: we shall have much pleasure in referring to the author's next communication when it appears.

**PREMATURE BIRTHS.**—R. Annan, Esq., surgeon, Kinross, (in the *Medical Times*, June 17), relates a case of a child born alive, and brought up, though born between the sixth and seventh month; and as an introduction, and as it were to strengthen his own case, mentions one recorded by Dr. Rodman, of Paisley, in the *Edinburgh Medical and Surgical Journal*, born, it is said, between the fourth and fifth month, and lived to be brought up. We can have no objection to Dr. Rodman relating his opinion of such a case, provided he does not insist on the world's believing it. But let us examine the case of Mr. Annan. The fetus was certainly very small, *extraordinarily so to live*, and great credit is due to Mr. A. for his persevering efforts to retain so frail a being in this life. On the seventh day it weighed but 28 ounces. After all, the statement of the mother as to the commencement of pregnancy is a little wide, as she states, "from the beginning or middle of November," &c. Indeed, the relator is not very positive as to the period, therefore, it is not beyond the limit of possibility, to suppose, that a general check to progressive development had occurred during gestation, probably during the severe illness of the mother, sufficient to account for the want of size. Mr. Annan strongly recommends wine mixed with the child's food in such cases, on the propriety of which we are somewhat sceptical.

A case is also reported in the *Gazette Medicale de Strasbourg*, March, 1848, born, according to the mother's calculation, in the sixth month, which lived a day. Its body was fourteen inches long, weight two pounds. There was no morbid cause of death; defect of maturity alone caused the failure of life. Here then is a case of a living, but not viable fetus of the sixth month.

**DISEASES OF WOMEN.—PUERPERAL FEVER.**—In the *Lancet*, June 24, 1848, Mr. Beecroft records seven cases, all of which terminated fatally. Mr. B. is now a contagionist, at least he states his conversion or adoption of that view, after the death of the fourth case, and determines *not to attend any more midwifery cases for a time*. Yet after a short rest of nine days (probably with the same clothing), as though not thoroughly convinced of its contagious principles, he attends three or four more cases, all of which fall victims. We could have wished his conversion more sincere at an earlier period. Mr. B.'s definition of contagion is so peculiar that we shall give his own phraseology. "Diseases originating from a pestiferous virus entering into the body, and poisoning the blood, should be set down as capable of transmitting the same virus to others, &c." The mode of treatment suggested by Mr. B. presents nothing new, and the fatality of his cases says nothing in its favour. Bleeding, he says, *does no good, having tried it twice*. He speaks of assisting nature by acting on the principle of elimination; the particulars of his cases are so meagre, that it is impossible to give any practical information by repeating them.

**OTYARIOTOMY.**—Mr. Potter, of the Newcastle Infirmary, in the *Medical*

*Gazette*, June 23d, records a fatal case of ovarian extirpation. The operation appears to have been well performed by Mr. Potter. One circumstance in this case we (the Ed.) have not yet encountered, viz., both ovaries being diseased. In Mr. Potter's case, sickness and vomiting were the most prominent symptoms. In similar cases, we have never persevered with opium or morphine, as in general we have found opiates aggravate, rather than allay sickness. The adhesions were neither extensive nor firmly organized. We think bleeding and less opiates would have furnished a more favourable result.—Ed.

DISEASES OF CHILDREN.—STOMATITIS.—Dr. West, in the *Medical Gazette*, June 2, continues his very excellent lectures on the diseases of children. Stomatitis is considered by him as a secondary affection, most frequent before dentition is completed, and a disorder not of a very serious character. In the ulcerative form he considers the chlorate of potash almost a specific. He also recommends cauterization for the gangrenous form, which he considers very rare, and generally fatal.

CONGENITAL ENLARGED KIDNEY.—Dr. Fischer, of Mecklinburgh, U.S., states the case of a child, 7½ lbs. at birth, which lived but a few minutes. On a post mortem examination one of the kidneys, the right weighed ¾ v., and the left ¾ v. 3 v. and grs. xi.

HEMORRHAGE FROM THE UMBILICUS.—Thos. Hill, Esq., in the *Dublin Medical Press*, relates a case of a child eight days old, that had been bleeding five hours when he was called in, and was much sunk. The plan pursued by Mr. Hill was not entirely new, as Dr. Churchill is said to have recommended it, viz., a preparation of plaster of Paris, as if for casting, poured upon the part, and when solid, a bandage applied over it; it succeeded admirably, and when removed after four days, two small papillæ were observed on the plaster, corresponding with the mouths of the two vessels from whence the hæmorrhage had occurred. [The plan is worthy of trial.—Ed.]

EXTRA UTERINE PREGNANCY.—S. Peters, M.D., Boone County, Missouri, U.S., in the *Philadelphia Medical Examiner*, relates a case of a female, æt. 35, supposed to be pregnant, suddenly fell down and became faint, pulse 96, barely perceptible, tongue natural, lips pallid, extremities cold, vaginal examination threw no light on the case; she died in two hours. Post mortem examination: abdomen filled with blood, fifteen pints were removed; the embryo and membranes partly adhered to the bladder; the embryo three inches long and well formed; uterus three times its natural size, had no lining membrane; glandulæ nabothi enlarged. The right ovary had an enlarged Graafian vesicle filled with brown fluid.

PREPERAL CONVULSIONS.—In the Hôpital St. Louis, chloroform was exhibited at the commencement of each convulsion, and although the face was swollen, lips purple, frothy mucous issuing from the mouth, the fit was shortened, and the delivery accomplished without any untoward circumstances.—*Revue Médico Chirurg.*

CÆSARIAN OPERATION (AFTER DEATH).—Dr. Pelayo relates a case of extirpation of the fœtus after death at Paris, and Mr. Campbell gives a similar case; both infants were saved. Mr. Campbell's case occurred at the Hospital of Maternité, Paris.

SCRIPTURAL AUTHORITY FOR THE MITIGATION OF THE  
PAINS OF LABOUR, BY CHLOROFORM, AND OTHER ANÆS-  
THETIC AGENTS.—BY PROTHEROE SMITH, M.D., LONDON. HIGH-  
LEY, 32, FLEET-STREET, 8VO., PP. 52. 1848.

This pamphlet (together with that of Professor Simpson, on the same subject, published some time ago), contains all that is necessary to be known, in reference to the theological part of the question of Anæsthesia, more particularly as connected with the practice of midwifery, and we have no doubt that the sceptic may find an efficient answer to any inquiry he may wish to propound on this very interesting subject. Professor Simpson had so fully satisfied us by his theological arguments, that we supposed any further defence unnecessary; nevertheless the pamphlet of Dr. Protheroe Smith is a further display of indefatigable research, inasmuch that a doubt cannot now be left to argue upon. *Theologically speaking*, take both pamphlets the arguments are conclusive and the proofs from Scripture to the point, which convinces us that, as human beings, we have a right to mitigate suffering in whatever phase it presents itself, whether that of a natural though painful process (as in labour), or under the influences of morbid structure (as in surgical operations). It is certain the whole art of medicine has for its object the mitigation of pain and suffering, and it would be as absurd to cry down the whole art of medicine and surgery, as to object to any branch of it, of which anæsthesia is most decidedly one of no little importance, which has existed from the earliest times, if not in the perfectly rapid form of chloroform, in agencies of a less perfect character. If, then, the healing art is unexceptionable (our Saviour having practised it), it follows that every means to carry out its principles in the most perfect manner, and with the least amount of pain, is *equally unexceptionable*. Some authors, however, in their ardour to advance a subject, outstrip themselves: thus, for instance, Mr. Gower, in the *Lancet* of May 13, 1848, inquires "why ergot of rye is given, but to abridge labour? And what is an abridgement but a mitigation!" We certainly were not prepared for such a display of reasoning as this. It is evident, if the objecting theologian had known as much of ergot as Mr. Gower, he would have made the same objections to it, as to chloroform, but as the subject did not obtain the same notoriety, of course it passed by without the notch on the pedestal of fame gained by chloroform. But the objecting theologians were wiser than Mr. Gower, as evidenced by their silence. Surely Mr. Gower forgot that ergot is never *properly* given, but where pains are *absent*, and it is given for the ostensible purpose of increasing uterine action (*pain*) in other words, it restores the primeval curse. True, labour is abridged as to time, but the severity is increased proportionably: thus we cannot admit ergot in the argument analogically. That anæsthesia has met with the most virulent opposition, is evident. The more virulent, however, the more it is suspected of being partial. We ourselves opposed its first introduction, and still oppose its indiscriminate adoption, and improper application by dentists, corn cutters, and the like. But we witnessed its application in the hands of experienced persons, we felt bound

to withdraw our opposition to its use, seeing it to be perfect madness to oppose what was evidently a boon of great value, *under proper management*. A great outcry has been raised by a few deaths having occurred under its influence, but what mode of human treatment of disease is void of mortality. The number of deaths, too, is reduced when we take from the lot those who madly exhibited it upon themselves, and those who had no right, nor possessed knowledge enough to exhibit it on others. We say without fear of contradiction, the deaths are *very few indeed*. Compare its application with the many new schemes of medical science. How many thousands have died from the indiscreet use of calomel, antimony, iodine? How many thousands have sunk under the nonentities of homœopathy—the drownings inwardly and outwardly of hydropathy, and the thousand and one agents suggested by the venality, ignorance, or enthusiasm of the present age. If dead men are not allowed to tell tales in these instances, why should they make such a noise in connexion with chloroform? Human pain and misery are increased a hundred fold, and thousands die for want of sanitary regulations, but, as a matter of course, that is everybody's business, therefore nobody's. It is by general tests we must adopt or condemn chloroform, not from the partial attacks of some few individuals, whose experience often amounts to a case *happening yesterday!*

We wish government would step in and decide the question, by allowing some large lying-in hospital (such as Dublin), where the statistics have been well kept for 90 or 100 years back. Let chloroform be a general application for one, two, or three years in such Hospital. Let us see the result and we are willing to abide by it whether *for* or *against*: all the furious arguments in the world would not outweigh such proofs. In the meantime, whilst we are prepared to admit the great utility of the application of chloroform, not only as an anæsthetic agent, but in many forms, only now just becoming known, we cannot conclude without recommending all who have a desire to dip into its merits theologically, to read carefully the pamphlets of Dr. Simpson and Dr. Protheroe Smith, in the pages of which they may find an answer to every objection.

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#### MEMORANDA FOR YOUNG PRACTITIONERS IN MIDWIFERY.

By EDWARD RIGBY, M.D., &c. SECOND EDITION, CONSIDERABLY ENLARGED. LONDON: H. RENSHAW. 32MO., PP. 64. 1848.

The lilliputian work before us demands more notice at our hands than we at first thought of bestowing upon it. We have naturally a great aversion (bordering upon contempt) for all *Readings made Easy*, or *Royal Roads to Professional Knowledge*, and we had hoped all such works were left to medical Grinders to concoct. The Memoranda of Midwifery before us, however, is ushered into the world under such a respectable name, that at first we felt uncertain whether some trick had not been played off on the profession by some daring person, under a more respectable name than his own. But on examining the title page, publisher's name, and preface to the second edition, we felt convinced that it was the genuine work of its announced author. It

therefore becomes our duty to examine, and report our opinion of this immense 32mo. of 64 pages. In doing so, we shall first have a few words to say on the necessity of such works, and their tendency on the profession; and secondly, speak of the work as it is, and we hope our remarks will be taken in good part by the author, having the highest opinion of him ourselves, and assuring him we are guided only by principle, when we say we are totally averse to such works, and only regret (for the honour of the profession) when they are undertaken by men of high standing, to whom we have been accustomed to look up, and expect flights of first-rate genius from, by original productions on the many debateable points of obstetric practice, that still present a wide field for cultivation by the stars of our order.

We cannot agree with the editor of the *Medical Gazette* in wishing the various branches of our profession condensed in a similar manner as the *Memoranda*. Surely he cannot be serious in such a recommendation, and though his remarks are written in a vein of pleasantry, they will not bear reflection. The preface announces, that an impression of 2000 has been exhausted already, and supposing 2000 of the present edition to be sold, we may fairly conclude that there are 4000 practising our profession *that had much better let it alone*. We feel confident that when a medical man commences his practical career, and has been properly educated, he has no need of such a work as "THE MEMORANDA." If he has not well studied, read, and reflected upon the subjects likely to occupy his attention, and preserved his *Memoranda* in his brain and at his finger ends, we should be sorry to trust him with the life and hazards of any female, even though he might be armed with *Dr. Rigby's Memoranda* in his waistcoat pocket, where its insignificant size would prevent its detection by the old ladies often at his elbows on such occasions.

There cannot exist a more dangerous class of works than these *Readings made Easy*. They have a tendency to do away with that plodding, painstaking inquiry, that careful observation, and comparison of facts, from extensive reading and experience, so necessary in the construction of an active, and intelligent accoucheur, whose knowledge and presence of mind make him at once an object of envy and fear to the half-educated ignoramus, who, forsooth, must consult the memoranda in his waistcoat pocket before he can determine what to do.

But let us look at Dr. Rigby's "*Memoranda*," as it is, or as a work of its kind. It certainly is entitled to the cognomen of *multum in parvo*. Every one will allow, that under Dr. Rigby's care, whatever is written, will be well written, and on looking its pages carefully over, we find it replete with sound sense and practical experience, as far as it goes, but it is so miserably contracted, that it appears calculated only to assist some dunder-headed student through his examination at the hall, or college, and the author knowing the class he has to deal with, comprises as much in as few words as possible, so that the student could, without much stress laid upon his dull powers, get the whole off by heart, and thus astonish the examiners, when ushered into their august presence. To prove this, we find the whole chapter on *Extra Uterine Pregnancy* comprised in one hundred and eighty words! *Puerperal Mania* in seventy-two words! *Premature Labour* in about one hundred and sixty words! and other important items in similar proportions. Now we would ask the



author, is this a proper mode of treating such important questions? Will it not have a tendency to lower the accoucheur? We hope the author of the *Obstetric Memoranda* does not depend on this work for an additional amount of fame; if he does, we are pretty certain he will be mistaken. And if all the editions he has sold (or will ever sell), were *all profit*, it will be a poor requital for the moral injury inflicted on the profession by one of its most efficient members, whose valuable time we regret having been taken up by such a production, when we know him capable of undertaking works that would alike do honour to himself, and render the professors of obstetrics under great obligations to him.

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#### RETROSPECT FOR JULY, 1848.

**PRACTICAL LABOUR.—DEATH OF FÆTUS IN UTERO.**—Dr. Mc Swiney, of Dublin, relates a case where the death was supposed to arise from an attack of convulsions.—*Dublin Med. Press*, July 5, 1848.

**INDUCTION OF PREMATURE LABOUR.**—Where necessary, Dr. Simpson recommends a sponge tent, very hardly compressed and dipped in a strong solution of gum arabic. The tent to be introduced within the os uteri which it dilates and produces the wished-for effect.

**INDUCTION OF PREMATURE LABOUR.**—Mr. C. Evans, in the *Lancet*, July 15, gives a case of induction of premature labour in a female that had had very difficult labours previously, *but does not state the cause*, which ultimately did well. A second case is also given of a contracted pelvis, where induction was neglected, and a most tedious instrumental labour was the result. [We think the cause for interference in the first case should be more clearly shown.—ED.]

**SPONTANEOUS RUPTURE OF THE UTERUS BEFORE LABOUR.**—We have before alluded to Mr. Brownbill's case, again reported in the *Lancet* of July 1st, and we have to express our surprise that he did not detect that the uterus was ruptured before the post mortem examination, believing as we do, that the four great leading symptoms of rupture were clearly indicated.

**SINGULAR CASE OF REPEATED ABORTIONS.**—M. Maslieurat Legemard has published a curious case in the *Gazette Médicale*, of which the following is an abstract. The subject of the case was a female of small stature, and of a nervous temperament, having a fair and beautiful skin, without any appearance of eruption. She became pregnant for the first time at the age of 21, and every thing went on regularly until the sixth month, at which period a smart itching came in the skin over the whole body. This by degrees became more severe, and towards the eighth month it became insupportable, particularly in the palms of the hands and over the abdomen, obliging her to scratch herself furiously, and finally this brought on the expulsion of a dead child. Throughout all this, the skin remained fair, transparent, and without the least appearance of any eruption; immediately the child was expelled, the itching ceased, as if by enchantment. Some time after this she again became pregnant, and again, about the sixth month, the itchiness of the skin began, and by degrees acquired an extreme intensity, occasioning the expulsion of a dead child in the

middle of the eighth month. She was scarcely delivered when the itchiness ceased. In the third pregnancy nothing particular occurred for eight months and a half, when the itchiness began, but had not arrived at its usual degree of intensity at the ninth month, when her accouchement took place favourably. The fourth pregnancy resembled the first, and she brought forth a dead child at seven and a half months. The fifth pregnancy resembled the third, and she again was delivered of a healthy child. The sixth, seventh, and eighth did not differ much from the two first in their character or consequences. In all these pregnancies the itchiness had occupied the whole surface of the body long before it invaded the palms of the hands; and it was only after the palms became affected that it acquired its greatest intensity. In the two instances where she went to her full time, the palms had remained exempt from the itchiness.

**CESAREAN SECTION.**—M. Malle reported a case successful both to mother and child. The mother was 19 years old, a *primipara*.

**DOUBLE MONSTER.**—M. Derieu narrated a case in which labour was terminated without artificial aid, at full term, and had two perfectly developed trunks, united from the neck to the umbilicus, two heads, and eight extremities. This double monster was dead, and putrefaction had commenced.

**INTRA-UTERINE FRACTURE OF THE CRANIUM,** BY M. BLOT.—The mother during her labour fell down stairs, and fractured her right thigh. Having removed her to bed, it was ascertained that the head was in the vagina, and a sensation of crepitus was distinctly perceived; the fetal pulsations were inaudible. The labour was terminated by the forceps, and it was found that blood was effused on both sides, between the cranium and pericranium. Fracture of both parietal bones was also discovered. The dura mater and membranes of the brain were uninjured.

**FREQUENCY OF TWIN BIRTHS.**—Respecting the frequency of twin births, it may not be uninteresting to state, that since the opening of the Dublin Lying-in Hospital in the year 1757, to the end of the year 1846, there were delivered in the institution 154,447 women, and of these 2382 gave birth to twins or more; thus giving an average of about 1 in 64. From Dr. Lee we learn, that since the founding of the British Lying-in Hospital "35,978 women have been delivered, and 36,401 children born. Four hundred and twenty-three had twins, and one three boys. The proportion of boys to girls born in this hospital is about 18 to 17; of still births, about 1 in 25; and women having had twins, 1 to 85."—*M'Clintock and Hardy's Practical Observations*, p. 328.

**SPONTANEOUS EXPULSION OF AN UTERINE TUMOUR AFTER DELIVERY.** By Dr. Eldredge.—We have great pleasure in noticing the following remarkable case, in which a large uterine tumour, probably of the ordinary fibrous character, was enucleated and expelled without artificial interference. It is probable that, consequent on delivery, inflammation and sloughing of the uterine tissues between the tumour and the cavity of the uterus had taken place, and that the mass had been expelled by the uterine contractions, to which its own presence in such a state would give rise. It is particularly interesting and instructive, as affording another instance of nature's own process for the cure of this malady.

The mother, *æt.* thirty-seven, had borne her last child seventeen years pre-

viously. She had, since then, enjoyed very good health; and her pregnancy presented nothing peculiar excepting an apparently very rapid and extraordinary increase of her size. The labour presented no remarkable or very serious peculiarity, except its protraction, and that force was required to bring out the head, the breech having presented. The child was dead. After complete delivery, the uterus continued so large as to excite a suspicion of the presence of twins. After about an hour, an examination was made, per vaginam, and the uterus found to contain a hard unyielding tumour, of the size of an adult's head or even larger, its surface presenting the appearance of granulations, without any investing membrane, and internally its structure was fibrous and extremely hard, firmly imbedded in the muscular texture of the uterus, and attached to it over a large surface. At its margin it could be separated from these attachments by the fingers, but soon the finger reached adhesions so firm, as to be incapable of dividing them. She was at this time full as large as a woman at the full time. For two weeks, she had frequent febrile attacks. At the end of this time the tumour began to diminish slightly, and the discharges became very fetid and offensive; but her general health steadily improved. Thirty-eight days after her confinement, the tumour was discharged without any pain. It was very fetid, and had evidently been detached for some time. The tumour weighed two pounds, and measured five inches by three, even after suffering so much from breaking down and decomposition.—*Boston Med. and Surg. Journal*, Feb. 2, 1848.

TRANSFUSION IN EXCESSIVE UTERINE HÆMORRHAGE. BY DR. WALLER.—Among some cases of placenta prævia, detailed in the *Medical Times* by Dr. Waller, we find three in which he resorted to transfusion, on account of the state of extreme prostration produced by the flooding consequent on the partial separation of the placenta. In spite of Dr. Waller's very energetic treatment, two of the mothers sank, one of them undelivered. In the third case, the transfusion appears to have been of decided benefit.

1. This was the case of a delicate lady pregnant for the first time. She had had flooding repeatedly at intervals during a month, and it was greatly increased when labour came on. The child presented by the feet, and was brought down by some traction. The placenta, which was adherent, required to be removed by the hand. "The blood all this time was flowing in alarming quantities. Stimuli were given internally, and cold applications used externally, by which the flow was checked. The pulse did not rally: it was imperceptible at the wrist, and could scarcely be distinguished in the carotids; the eye was set, the jaw dropped, and the breathing very laborious. Although the patient seemed *in articulo mortis*, I determined to give her the benefit of transfusion. The vein was promptly laid bare by Mr. Gravenor, but now an unexpected difficulty presented itself. As soon as the puncture was made in the arm of the man, who had consented to supply the blood, he became faint, and there was a slight trickling only from his vein; some brandy and water was given him without avail. Another person was procured; but by the time we were prepared to operate, all was over; the breathing had ceased." Still, two or three ounces were injected, but, of course, in vain.

2. When called to this patient, Dr. W. found her *in articulo mortis*. No pulse at the wrist, or movement of the heart felt. The bleeding had ceased.

She still continued breathing, and three charges of the syringe (two oz. each) were thrown into her veins, but without any perceptible effect.

3. This was a case of partial placental presentation, with very alarming hemorrhage. Her countenance was completely blanched, lips pale and livid, extremities cold, respiration laborious, pulse scarcely perceptible. Stimulants had been given without effect, and, as the symptoms of exhaustion increased, it was determined to perform transfusion. After injecting five ounces of blood, the improvement was manifest; pulse stronger, countenance of better aspect. About two hours and a half afterwards she again began to sink, and again four ounces of blood were injected, but without any improvement in the patient. A new subject was sought to furnish the blood. "The husband of the patient, being in the room, came forward to our aid; he looked rather pale, and therefore we gave him a glass of hot spirits and water, and then opened a vein, from which the blood flowed in an impetuous stream. The first injection of about two oz. produced a marked alteration on the pulse; it became decidedly perceptible. When nine oz. had been injected, the countenance was much improved; there was even a slight appearance of colour in the cheeks, and pain in the arm was complained of. Four oz. more were introduced, when all symptoms of immediate danger vanished." In a short time pains returned, and she was safely delivered. She recovered.—*Medical Times*, 1847-1848.

**DISEASES OF WOMEN—FOREIGN BODY IN THE PELVIS.**—Dr. Lever, in the *Lancet*, June 24th, records a very interesting case of an operation for the removal of a bone netting mesh, which had been thrust by accident into the pelvic cavity through the vagina, whilst in the act of applying some ointment. The mesh was nearly six inches in length. The operation was followed by great constitutional irritation, but ultimately did well.

**ULCERATION OF OS AND CERVIX UTERI.**—Mr. Tripe, in the *Medical Gazette*, June 4th and 16th, records four cases of ulceration of the os and cervix. The treatment consisted of free cauterization, with the nitrate of silver; zinc injections, aperients and tonics. The observations of Mr. T. on the mode of investigating such cases are deserving of notice.

**RETROFLEXION OF THE UTERUS.**—T. Safford Lee, Esq., has an excellent paper in the *Medical Gazette*, June 2, on this subject. The paper gives the result of forty cases. The whole so confirmative of Dr. Simpson's views, which we have already in this number commented upon extensively, that we need only refer the reader to Mr. Lee's paper, which does him great credit.

**STREUMOUS DISEASE OF THE UTERUS.**—Dr. Lever.—In this woman, *et. fifty-eight*, menstruation had ceased for some years, but for the last twelve months there had been some sanguineous discharge from the vagina at intervals of about a month. For some time before death, she complained of irregularity in the action of the bowels, with pain during their movement. She also complained of a feeling of bearing down, with pain over the pubis and in the hypogastrium generally. On examination, *per vaginam*, the uterus was found slightly prolapsed, the os free from disease, the body enlarged. During the exploration she complained of no pain except when the womb was pressed back upon the rectum. An examination, *per rectum*, detected a tumour lying between the uterus and gut, which was extremely painful on the slightest touch.

On the post-mortem examination, a small tumour was found in the right mamma. It was covered with a thin glistening membrane, and, on being cut into, presented a red granular friable mass, like the cut surface of the spleen. A large tumour was found between the rectum and uterus, softening at one spot, and having a disposition to open into the gut. Internally it was of a light yellow colour in the centre, deepening into a dusky red towards the periphery. The uterus itself was large, having several irregularly rounded elevations on its surface. The parietes of the organ were thick, but not tough, and of a port-wine colour; and in them were found many whitish friable pin-head granules, evidently separated by the liquifying process from some masses in the uterine walls of the same character as the larger tumour. When gentle pressure was made on the fundus of the organ, a curdy matter escaped through the os. On opening the cavity, it was found to be occupied by a quantity of fluid similar to that which could be readily squeezed from a soft flabby spleen.

—*London Medical Gazette.*

#### TREATING OVARIAN DROPSY BY THE ULCERATIVE OPENING OF THE CYST.

—Edward John Tilt, M.D., was led to attempt this mode of cure by observing the process of Nature in some spontaneous and radical cures of ovarian dropsy. His first object is, to establish solid adhesion between the peritoneal covering of the cyst and the peritoneal lining of the abdominal parietes. His second object is, to make the smallest possible opening into the cyst, so that it may not be suddenly emptied, but remain always full, and be only relieved, *per stilicidium*, of the overplus of liquid distending its cavity, while it gradually contracts. To attain both these objects he adopts the plan which has often been successful in effecting the adhesion of hydatid cysts of the liver to the abdominal walls. It consists in the application of Vienna paste to the appropriate part of the abdomen. He relates one case in which a radical cure of an ovarian cyst was effected by this means.

A lady, who had always enjoyed good health, ceased menstruating at forty years of age. Soon afterwards, having been exposed to cold, she was seized with violent pain in the left iliac fossa, followed by shivering and high fever. When these symptoms were relieved, a tumour of the size of an orange was felt in the situation of the left ovary. This tumour gradually increased, and in a short space of time the patient had the appearance of being advanced nine months in pregnancy. Vienna paste was applied to the pit of the stomach; an eschar was produced, and fell off, and afterwards a small opening was formed by ulceration, through which an albuminous, ropy fluid escaped. The abdomen was supported by moderate pressure. In a few weeks the discharge became purulent and offensive. Tepid water was then injected into the cyst daily for some months; the cyst gradually contracting, so that at length it would receive only an ounce of water. In about a year the patient was in effect well, although for several years a fistulous opening remained at the pit of the stomach. In the course of the case, the cyst formed a communication with one of the intestines, and for several days the patient passed purulent stools, while during that time, no pus escaped from the external wound. Dr. Tilt is not perhaps aware, that the editor of this journal treated two cases of ovarian disease by the ulcerative process successfully, more than five years ago.

RUPTURE OF THE UNIMPREGNATED UTERUS.—M. Gozzo; of Naples, nat-

notes the following extraordinary case:—A woman, aged 34, the subject of dysmenorrhœa, and sterile, was examined. The uterus was felt above the pubis, as large as at the fifth month, but perfectly destitute of inequalities of its surface. The uterus continued to increase until its fundus reached the xiphoid cartilage; the menstrual discharge was irregular, and followed by leucorrhœa. She was shortly seized with symptoms of intestinal obstruction, from which she was recovering, when she was suddenly seized with collapse and abdominal pain, and died in less than twenty-four hours. After death the peritoneal cavity was found to be almost filled with pus, mingled with serous fluid and foetid gas. The uterus adhered to the lateral parts of the abdomen, from the pubis as high as the umbilicus, filling the iliac regions; it was covered by the large omentum. The intestinal surface was irregular, and covered with fungous excrescences and tubercular masses of various sizes and forms, its cavity being filled with a white inodorous pus. The uterine walls were thickened, and contained several small abscesses, some of which were close to its peritoneal surface. The posterior aspect of the organ exhibited a rent, through which the matter had escaped into the abdomen. An encephaloid tumour was likewise found occupying the lower segment of the uterine surface. *Archives Générales.*

**ABSCESS OF THE OVARIES, &c.**—Dr. J. H. Bennett, in the *Lancet*, July 15, gives an elaborate essay on this important subject, proving in the first place that such lesions were known to the ancients, and also the perforation of them through the vagina, rectum, or bladder (vide *Paulus Ægineta*). Subsequently, at the revival of Midwifery, in the 17th and 18th centuries, Guillemeau, Mauriceau, and Puzos, turned their attention to this class of lesions. Latterly this subject has been fully treated on by Dance, Hussion, Boivin, Baudelocque, Andral, Dupuytren, Velpeau, and in our own country, Doherty, Churchill, Lever, &c. Dr. Bennett considers the question hitherto only studied in relation to the puerperal condition, whereas it frequently occurs apart from that state. In the puerperal form the uterus is nearly always implicated. In the non-puerperal form it is limited to the tissues primarily attacked. To the non-puerperal Dr. Bennett directs his attention. The symptoms of inflammation of the uterine appendages are, at first sight, analogous to acute metritis. There are, however, some points of dissimilarity, the pain is greatest at a little distance from the median line, in the ovarian region chiefly on the left, and a tumour perceived in that locality. A careful digital examination is necessary through the vagina, whilst the patient is on her back and the thighs raised. It is also necessary to examine through the rectum. The most favourable mode of exit for the abscess is through the vagina. When it discharges through the abdominal parietes, it is preceded and accompanied by inflammatory swelling, and inflammation of the surrounding tissues. The non-puerperal form of these abscesses offers generally a favourable prognosis as regards the life of the patient, yet the recovery is a slow process. Dr. Bennett has nothing new to offer in regard to treatment general antiphlogistic means. A case is added by way of illustration, in which he discovered the disease *after the pus had been discharged.*

**MALIGNANT EMBRYOPLAS, AFTER PARTURITION.**—Mr. King, in the *Proc. Med. and Surg. Journal*, July 26, narrates two cases. The first case recovered

from the attack, but died six weeks after of inflammation of the lungs. The second case died three weeks after confinement, apparently from unmanageable diarrhoea. Mr. King attended eleven cases between the first and second asy-sipelalous patient, none of whom showed any untoward symptom, but on attending the twelfth case, he wore the same clothes as at the first hence the result.

PLACENTITIS.—Dr. Hengel delivered a woman in two successive pregnancies. In the first, the fetal portion of the placenta was converted into a greyish white cartilaginous substance. In the second two years after it was of the same appearance, and so indurated as not to bend when taken hold of by one edge.

ABSCESS OF THE VULVA.—Three cases of this nature are related by M. Valpeau, of the respective ages of 19, 20, and 23, supposed to have arisen from excess of coition.—*Journal de Méd.*

DISEASES OF CHILDREN.—DIARRHŒA OF INFANCY.—Dr. West's observations in the *Gazette*, July 7, tend to shew two forms of this disease, the simple and the inflammatory, and enumerates as causes, *dentition, temperature, atmospheric influences, and season of the year*. Simple diarrhoea is seldom dangerous, except where great exhaustion is produced, and sudden arrests of the diarrhoea, without the cause being removed. Secondary attacks are of a more dangerous character. From the registrar-general's report, diarrhoea of infancy, as compared to deaths from all causes, is at one year old, 3.9 per cent.; from two to three years old, 2.3 per cent.; from three to five years old, 6 per cent.; from five to ten years old, 1.1 per cent.; and from ten to fifteen years, 1. per cent. Dr. West has noticed, in 1344 cases under six months, 7.8 per cent., to all other cases of diarrhoea, and 12.6 per cent. to all diseases. At one year, 16.6 per cent. to diarrhoea cases, 17.5 per cent. to all diseases. Under eighteen months, 21.6 per cent. to diarrhoea cases, 23.2 per cent. to all diseases; from two years old, 15.0 per cent. to diarrhoea, 23.7 per cent. to all diseases; three years old, 12.0 per cent. to diarrhoea cases, and 13.9 per cent. to all diseases; to five years old 11.5 per cent. of diarrhoea cases, 8.6 per cent. to all diseases; to ten years old, 11.2 per cent. of diarrhoea cases, and 7.0 per cent. to all diseases; to fifteen years old, 4.8 per cent. of diarrhoea cases, and 7.6 per cent. to all diseases.

On the atmospheric influence and seasons, Dr. West observes:—November, December, and January, 7.2 per cent. of all diseases; February, March, and April, 8.3 per cent.; May, June, and July, 13.0 per cent.; August, September, and October, 24.4 per cent. The distinction of the simple, from the inflammatory diarrhoea, is rather one of degree than of kind. The symptoms vary from the simplest form of relaxed motion, to the most severe constitutional disturbance. In the treatment, the simple form will often cease on its own accord; errors in diet should be carefully avoided; if the diarrhoea has arisen from such an error, a dose of castor oil will often suffice to correct the mischief. If teething be connected with it, tepid baths will be serviceable. Scarifying the gums may be necessary, if the part is swollen, and the tooth or teeth well advanced. Lancing the gums on every occasion is to be deprecated. Liq. potass: vin: ipec. aa ʒ iv. in a little mucilage or milk every four hours is a dose for a child one year old, and is often an effective remedy with Dover

powder and hydr: c creta 2 gr. i at bed time. If there is much exhaustion, a few drops of Sp: Æth: nit: to the mixture will be of advantage. In the inflammatory diarrhoea, abstraction of blood should be done with care, and the little patient narrowly watched. In such cases, if the stomach is not too irritable, the exhibition of castor oil diffused in mucilage, with a few drops of tinct: opii: is a very efficient remedy, viz. :—

R: Ol: ricini: ʒi. pulv: acac: ʒi. syr: simpl: ʒi. Tr. opii: m iv. Aq. flor. surant ʒvii. M ft. mixt: ʒi. ter die. Where the stomach is very irritable, such medicines cannot be borne, but in lieu, mustard poultices to the epigastrium, calomel ʒ and opium ʒi of a grain on the tongue every four hours. It would be impossible to follow Dr. West throughout the whole of his excellent remarks, and we are only doing them injustice by abbreviation, we therefore earnestly recommend their perusal in full.

PERITONITIS IN CHILDREN.—In the *Gazette*, July 21, Dr. West's lecture embraces *peritonitis*, which he considers rare in childhood, nevertheless it has occurred in the fetal stage of life, and in very early infancy, may be looked upon as possibly dependent on a syphilitic taint, in the epidemic form, sometimes connected with infantile erysipelas. The chronic form of peritonitis is almost always a tubercular disease. In both forms of the disease the treatment must be guided by general principles. Leeches where the abdominal pain calls for them; but even local depletion must not be forced without absolute necessity, for often a hot poultice will remove pain that seemed at first to call for depletion. To check the over action of the bowels, logwood and catechu answers the best. If the diarrhoea be very obstinate, sulph: ferri and opium. Mercurials in a mild form are often serviceable, and the mercurial liniment, where there is much tenderness.

MALFORMED FETAL GENITAL ORGANS.—Dr. Dalton, in the *Lancet*, July 15, gives the following description of the organs. I found it perfect in all external parts, excepting the generative organs, and which gave the following appearances: the penis measured from an inch and a quarter to an inch and a half in length; it lay partially buried in a sulcus or groove, formed between folds of loose integument, having the appearance of enlarged labia, but in structure resembling the scrotum. On elevating the penis, I found it flattened and accurately adapted to the fissure beneath it. The upper surface of this imperfectly formed organ was covered by the prepuce, which spread over the glands, and concealed and adhered to its corona. The upper surface of the glands was, with this exception, natural, but it had no orifice; from under the surface of the glands I traced a streak of mucous membrane, about a quarter of an inch in breadth, taking the usual course of the urethra, and terminating in an aperture beneath the arch of the pubis, the orifice of which readily admitted a No. 8 catheter. I passed one readily into the bladder, and drew off some urine. Beneath this meatus the scrotum was separated by a continuation of the sulcus through its whole extent, and giving these parts the appearance of enlarged labia, the diameter of the groove increasing from above downwards. On separating the labia, the urethral orifice was more completely brought into view, and gave to mind the most perfect resemblance to an hermaphrodite. The testes had not descended. I consider this case was simply an arrest of development, the under portion of the urethra being absent the whole length of



the penis, and constituting complete hypospadias. I was called upon to visit this child on the 7th of April, and found it in a state of atrophy; it sank on the following day, at the age of one month. No post mortem examination was permitted, neither could I obtain a sketch of the parts.

**CONGENITAL MALFORMATION OF THE HEART.**—Mr. Robinson, in the *Gazette*, July 21, gives the following *Autopsy*. The left lung was reduced to nearly one-third of its normal size by the encroachment of the heart, and studded with tubercles. This distended pericardium contained about four ounces of serum. The right ventricle was large enough to contain a hen's egg, and was filled with a firm coagulum. The free border of the tricuspid valve was thickened to such an extent as to prevent its perfect closure; the pulmonary artery and valves were healthy. The left auricle presented no muscular pectinati, except in its appendix, its walls being as thin as a portion of intestine. A circular orifice, almost as large as the little finger, existed in the septum in the ventricles, opening beneath a muscular fold in the right cavity, and, in the left, immediately below the aortic semilunar valves. The foramen ovale was closed, and no remains of the ductus arteriosus existed.

**CROUP.**—Dr. H. Zeroni.—The most ordinary form is *Congestive Croup*. This occurs when there is a tendency in the weather to induce catarrhal affections, manifesting itself suddenly, in the night, and without any precursory symptoms; with the exception, perhaps, of a slight cold. In this disease, children wake from sleep with a sharp barking cough, raise in bed, and cry in apparent distress, and a piping hissing inspiration. The countenance flushed and turgid, respiration not hurried, and but little febrile excitement perceived in the pulse. When the attack subsides, the child falls asleep; occasionally the attacks recur, respiration becomes more noisy, rattling and hissing, and the child vomits, or makes an effort to do so. This disease requires little more than careful nursing; the child should be kept in bed, should be made to drink copiously of warm drinks, partake freely of some oily emulsion, and have a sponge steeped in hot water laid on the neck. If a hissing hurried respiration causes apprehension of a recurrence of the attack, the most effectual means is an emetic, continuing its use until the child has vomited several times. (This form of the disease appears to be induced by an hereditary and acquired predisposition.) To young children during the first year, Dr Z. gives  $\frac{1}{4}$  gr. cupsulph. every quarter of an hour.

**Inflammatory Laryngeal Croup.**—This is far more serious in its nature, and never occurs without premonitory symptoms, or where it may not be referred to the action of some injurious influences. It may have been induced by the preoccurrence of the milder form, or owing to exposure to bad weather immediately after recovery from a former attack. The characteristic symptoms of this second form of croup are as follows: broken, rough, whistling cough; the inspiration is quick, and has a sharp sound; the child is restless, moves the hands, bringing them frequently to the head and neck. The face is hot; red, or purple, the neck swollen, whilst the pulsations of the heart and arteries are rapid. When the attack subsides, the child becomes strikingly mimated, enters into his customary sports, and evinces no desire to lie down or to go to sleep. Respiration after the first attack, and even after several attacks, is quiet and natural; it becomes, however, gradually more hurried

and noisy, and a faint rattling is heard, which assumes by degrees a rattling sound. Hoarseness increases, and the voice becomes low and whistling. The attacks come on more frequently, and the child is more restless and irritable during the periods of intermission, whilst the pulse grows fainter and fainter. This uneasiness, however, ceases. The child doses continually, lies on its back, with its head thrown back and pressed into the pillow; the throat protrudes, the countenance is drawn, pale, and swollen, somewhat of a bluish or yellowish tinge. The eyes are sunk and half shut; whatever is handed to the child is impatiently pushed aside, and nothing can induce it to drink. The respiration is loud and rattling, all the muscles of the neck are convulsed, the pulse is frequent and small. The child dies either in this state of sopor, with the symptoms of paralysis, or in the midst of convulsions induced by another choking attack of cough.

This form of disease requires prompt and energetic treatment. No time should be lost in abstracting blood, and no apparent amelioration of the symptoms should hinder the frequent application of leeches, in proportion to the age, until the child begins to evince an appearance of exhaustion from lost blood. A second important means is cupr. sulph. from three to four grains of which should at first be given in order to induce vomiting, and the dose should be then reduced to one-eighth or one-fourth of a grain, every half hour, or hour, until the disease assumes a favourable turn. Dr. Ferri also speaks of the invaluable aid he has derived in some cases of this form of croup (but not in any other), from a combination of musk and opium.

We now proceed to notice the third form of croup, or the *inflammatory*.

*Inflammatory Tracheal Croup.*—This is likewise attended by premonitory symptoms, and induced by pre-existing or extremely injurious influences. It generally occurs in the months of February and March. Children catch cold, have a dry, somewhat rough, cough, which being often disregarded, they are frequently suffered to expose themselves to cold and damp; the hoarseness and cough gradually increase, but this state often continues for upwards of a week before the occurrence of the fit of choking, and before medical advice is sought. After the first attack, the child is often cheerful and even at times extremely merry. The voice is quite gone, the respiration somewhat hurried, and more or less rattling; the cough not frequent, short, rough, unattended by a whistling inspiration, no expectoration, or if any, merely a white frothy mucus interspersed with a few streaks of blood; the pulse quick, the skin warm, and the urine natural. If the little patients are able to speak, they complain of pain in the neck and the middle of the chest. By degrees the choking fits become more frequent, the respiration more hurried and difficult, and the tone accompanying it rougher and more creaking. Extreme hilarity and the most remarkable movements alternate with excessive lassitude, during which the child sinks down exhausted, falls asleep, exhibiting the most marked disinclination to be spoken to, or touched. The cough becomes a noiseless suppressed expulsion of air, the attacks are accompanied by a violent noisy rattling sound, the muscles of the neck become powerfully convulsed, and the head is thrown far back. The pulse is small and quick, the skin drawn, the muscles extremely relaxed, the face swollen and puffy, the lips blue. The child dies in a state of sopor, as if from apoplexy, in this form it is more fatal to

children under two years of age than to those who are older. It is met with in children of six, or even occasionally, nine years of age.

The application of leeches is of the greatest importance, since on this depends the result of the whole treatment. If a sufficient number of leeches be early applied to the neck and chest, we may regard the termination of the disease as probably favourable. Emetics do not appear to have much influence here, although they occasionally relieve the respiration.

The fourth form, which is designated by Dr. Zeroni as *Aphthous Croup*, is the most dangerous, but fortunately also the most uncommon; it has only been observed in autumn, during a continuance of stormy, cold, and rainy weather. It never occurs unattended by premonitory symptoms. The child is somewhat excited, occasionally flushed, and appearing from time to time to have transient febrile symptoms. As, however, it is cheerful, sleeps well, and has a good appetite, these symptoms are too often neglected, and the child is suffered to go out in the damp or cold, until at last it complains of pain on swallowing. On examining the throat, the tonsils are found to be somewhat swollen, reddish, and covered here and there by a yellowish white puriform investment. The submaxillary glands are swollen. The child continues, however, cheerful, and there is scarcely a trace of fever. The aphthous streaks or points now extend gradually more and more, approaching each other. On removing part of this investment from the tonsils, we find that the subjacent membrane is of a brownish red colour, but not dry. Deglutition becomes more painful, but still there is no fever, and it is not till the fourth or fifth day that the symptoms assume a more serious character. Hoarseness comes on, a low singular kind of cough is heard, and occasional oppressive sensations are experienced. The disease soon runs its fatal course, and the child, after several days of indescribable suffering, dies in a state of sopor, under circumstances similar to those of which we have already spoken. A prophylactic mode of treatment seems the only one that is of avail in this form of croup: and, considering the nature of the disease, too much stress cannot be laid on those means of prevention under the control of parents—such as prompt attention to any symptoms of indisposition manifested by young children, and care not to expose them to the open air until all morbid symptoms are entirely removed; since Dr. Zeroni mentions that where once this aphthous affection of the tonsils was established, he never yet succeeded in saving the child; leeches, tartar emetic, and calomel being all without avail. The only means which he considers at all likely to produce a favourable result, are the external application of caustics, as suggested by Aretæus. Dr. Zeroni considers that this aphthous affection of the tonsils may occur in adults, although in their case he has never observed a fatal result. The disease may manifest itself alone, or conjointly with febrile diseases; but he has not found that in this latter case the local affection rendered any change necessary in the mode of treatment for the main disease.

The fifth form of croup, observed by Dr. Zeroni, is *Suppurative Croup*. This is invariably found to have been preceded by a fully developed catarrh, and usually occurs at the close of winter and the beginning of spring. It begins with more or less fever, restlessness, insomnia; the cough that was previously loose, becomes dry, rough, and barking, without being attended by a

whistling inspiration, or a metallic sound. The cough comes on by fits, during which the child tries to sit up, bends the head forward, and puts its hands to its ears, tongue or mouth. The attacks are not attended by choking, but cause distress, by the continuance of the short broken cough. The child is hoarse from the beginning of the disease, but loses his voice entirely after a time; cases, however, occur, in which the cough is at first loose, and the voice clear, but where there is much fever at the beginning of the disease, and even strongly marked delirium at night. Fever gradually increases, the child sleeps almost continually, actual suffocative fits at length come on, the respiration becomes hurried, gasping, and rattling. The child is pale and appears swollen; and finally torpor supervenes, with an extremely quick pulse and profuse perspiration, and the child not unfrequently dies in convulsions.

If the disease is neglected, it generally proves fatal to infants and very young children from the ninth to the eleventh day. In adults, it may be prolonged to the fourteenth or eighteenth day; in the latter case the attacks are much more violent. The suffocative attacks which generally supervene on the seventh day are most distressing: the child starts up with violence, tears, scratches, and bites everything it can lay hold of, often tearing its hair and biting its hands; it appears to be in a most fearful struggle, and in the height of its agony, the hoarseness suddenly disappears, and it cries in a loud voice for help; the short cough becomes looser, and the mucus is expectorated, the fever abates, and finally the dreadful sufferings of the little patient terminate in symptoms of paralysis.

This form, like the others, demands a prompt and early application of leeches, which must be repeated with a frequency proportionate to the age of the child and the violence of the fever; it is almost the only thing to which recourse can be had, but as soon as the cough becomes somewhat less distressing, and the fever abates, a favourable termination of the disease may be hoped for; occasionally, however, much service is derived from cupr. sulph., given in sufficient doses to produce vomiting; this must be done when the cough and fever have abated, and the suffocative attacks have begun. The above forms of croup are only met with in children, and seldom after their sixth year. Dr. Zeroni scarcely attaches any faith to the opinion entertained by many, of the fatal nature of croup in adults. He says that he certainly has observed all the symptoms of croup most strikingly manifested in women, but these were found to depend on uterine derangement, and yielded to a mode of treatment adopted with reference to diseases of the latter kind; and he considers that where adults have sunk under croupous symptoms, they must be ascribed rather to œdema glottidis than to genuine croup.—*Henle u. Pfeuffer's Zeitschrift*, and *Brit. and For. Med. Rev.*

MISCELLANEOUS INFORMATION.—INFLUENCE OF INSUFFICIENT FOOD ON THE GROWTH OF THE FETUS.—Dr. Frentruss relates, in *Casper's Wochen-schrift*, the case of a woman, thirty-six years of age, who was pregnant for the third time. So short were the diameters of the pelvis in consequence of rickets, that he had been obliged, in the two former deliveries, to perforate and extract. He resolved in the present instance not to await the full period of gestation, and was proceeding to provoke premature labour towards the thirty-second week, when he found that the fetus was so small that its posi-

tion could in no way be ascertained; nor was he more successful a fortnight afterwards. Dr. Frentruss was then struck with the idea of *starving* the child, to keep it within the dimensions of the pelvis, and very low diet, with occasional purgatives fully answered his expectations. At the usual time of gestation, he was able, with the forceps, to extract a *living* child, extremely small and meagre!—*Lancet*.—We do not believe the inference that starvation is always followed by a proportionate reduction in size of the fetus. We have seen very many cases where under the greatest deprivations of want and disease the fetus has been of the full size.—Vide a paper by us, *Medical Times*, vol. x., 279.

EMMENAGOGUES.—Dr. Jones, of the United States, speaks very highly of stramonium as being almost as specific as an emmenagogue, more truly so than any other article of the materia medica. His mode is as follows:—After an active dose of Prot: Chlo: Hydr: and Rhei, he gives the Tinct: Stramonium.

R. Semen: Stramonii  $\zeta$ iv.

Alcoholis diluti Oct. unum

Degere per dies decem, et per chartam cola, twenty drops three times a day, adding a drop to each dose every succeeding day, until dizziness, vertigo, or the *catamenia* appear, then suspend the preparation for the space of a month, when it is to be resumed. Dr. Jones reports one successful case, but which in our opinion is not sufficient to build a mode of practice upon; we think mercurials quite as effective.

SIGNS OF PREGNANCY.—Prof. Simpson exhibited a woman to the Obstetric Society, Edinburgh, that was seven months advanced in pregnancy, but not in the least indicated by any alteration of the areola. This was compared to a drawing of the breast of a lady who had never been pregnant, but suffering from uterine irritation; in this case the areola were turgid, brown coloured, and with numerous papillæ. Opinions as to pregnancy, therefore, should be guarded on this point.

EXTRA UTERINE PREGNANCY.—Is where the ovum has not passed along the fallopian tube into the uterus, but has either remained in the ovary, or in the tube, or, having fallen into the abdominal cavity, has become attached to some viscus there. Hence it is divided in *tubarian*, *ovarian*, and *ventral* pregnancy. A fourth species, which appears to be a modification of the tubarian form, has been described by Breschet under the term of "*Graviditas in substantiâ uteri*." Tubarian pregnancy usually terminates fatally, by rupture of the cyst, during the first two months. Ovarian will sometimes last till the fifth or sixth month, while ventral pregnancy may continue for many years. Generally, however, the child is gradually discharged by ulceration into the bowels, vagina, or through the abdominal parietes. She suffers from paroxysms of severe pain in the abdomen, occasionally threatening peritonitis, with great constitutional disturbance. Mild mercurials and laxatives to regulate the bowels, with a gentle opiate now and then, constitute the internal remedies, while warm fomentations, or even sometimes leeches, will form the local treatment.—*Dr. Rigby's Obstetric Memoranda*.

**A PRACTICAL TREATISE ON THE DISEASES PECULIAR TO WOMEN. ILLUSTRATED BY CASES DERIVED FROM HOSPITAL AND PRIVATE PRACTICE.—By S. ASHWELL, M.D., &c., OBSTETRIC PHYSICIAN AND LECTURER TO GUY'S HOSPITAL. THIRD EDITION. LONDON: SAMUEL HIGHLEY, 32, FLEET STREET. OCTAVO, PP. 772. 1848.**

It would be a work of supererogation for us to enter into the particular merits of this very extensive, useful, and valuable work of Dr. Ashwell's. The fact of a third edition having been called for, is a proof that the reading portion of the profession, fully appreciate the valuable mass of information presented in its pages.

The work itself is large, two editions already disposed of, and a third now before the public, must be felt as a great compliment by the author, and add no little to his already well-earned reputation. The author's labours have also been duly appreciated in America, by re-publication there. Independent of the author taking into consideration the most profound reasoning on the highest flights of scientific observation and inquiry, the work is full of interesting illustrative cases, appended to every separate class of diseases, whilst pathology is duly cared for by well-conducted post mortem examinations. The additions, to the third edition are not numerous; it is in fact, rather a careful revision of former editions, than an attempt at much new matter, which could not have been added without the work being materially increased in size, rendering it inconvenient and expensive. It would have given us much pleasure to select some portion of the work for particular notice, but the difficulty lay in making the selection among a series of subjects *all of which* are equally deserving, and as the general principles of the work are now so well known, we cannot do better, than say we highly approve, and earnestly recommend the work, not only to the junior, but the experienced practitioner, for much valuable information.

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**ARGUMENTS AGAINST THE INDISCRIMINATE USE OF CHLOROFORM IN MIDWIFERY.—By S. W. J. MERRIMAN, M.D., CANTAB., &c., &c. LONDON: J. CHURCHILL. PP. 27, OCTAVO. 1848.**

Our readers will recollect that at first we were anything but enthusiastic in our notices of this remarkable agent, and it was not until we were thoroughly convinced of its value, by witnessing the mode of its exhibition and management in the hands of Professor Simpson himself, that we honourably revised our former expressed opinion as being too strongly drawn out against it. We at that time, saw an immense difference between the best specimen of chloroform made in England, and what was in common use in Edinburgh. It will also be recollected we have invariably condemned its indiscriminate use, believing, as we do, that it is only to be justifiably adopted, under certain cir-

circumstances, and in peculiar cases, in which its object is to relieve the mind from the idea of suffering a large amount of pain, necessarily attendant on such a case.

The pamphlet before us is one of great worth, and deserves the careful and serious perusal of every one who plumes himself efficient, in all respects, to undertake the responsibility of exhibiting chloroform. Dr. Merriman condemns its indiscriminate adoption, and equally condemns writers for generalizing so extensively on a few cases. "Arguing thus from individual, to general practice, not from general principles, as laid down by experience, to individual cases, in which the general rules may be more or less departed from, according to circumstances affecting the individual." Dr. M. sketches the history of midwifery in reference to general rules, then, the nature and properties of anæsthetic agents, and lastly, from these, attempts to draw rules which should govern the profession in the employment of anæsthetic agents. After shewing the comparatively easy births of savage nations, compared with nations civilized, he touches on the first efforts of science to assist in difficult cases. The history, use, and abuse, of the forceps, and of the ergot of rye, are then glanced at, to show the value of some well-known remedies, yet their undesirableness in general; and the great superiority of allowing nature to conduct the whole process of birth, the physician merely interfering when he finds morbid action commencing, or when the birth is impracticable without artificial assistance. In the 17th century the mortality of women in child-bed was 1 in 50; in the 18th 1 in 67; and the last ten years 1 in 138; and probably at present, it is less than this. The author then states:—"The benefits of non-interference are seen in the greater number of children born alive now, than formerly, so that it becomes doubtful whether any exhibition of supposed remedial agents is calculated to render more safe, and certain, the birth of a living child, and the preservation of the mother's health, than nature herself will accomplish in the great majority of births." A vast majority of cases, continues Dr. M., are completed in a few hours; others, equally natural, except as to time, may occupy days, and yet no bad consequences ensue; nature in general is equal to her task, and none can perform it better or more efficiently. It is a most wonderful ordinance of providence, that the recurrence, for many hours, of labour pains hardly ever, by itself, produces danger to life. If we turn to statistical proof, we find in 500 labours in private practice (vide Dr. Merriman's synopsis) 206 completed in 6 hours, 192 in 12 hours, 74 in 18 hours, and 28 in 24 hours, of these 500 cases 73 were first labours, the few hours here occupied on the average, seems to excite no real danger of life to the mother or child, from the effect of pains alone. In 5852 cases of the Dublin Hospital, 3882 occupied 6 hours; 1398, 12 hours, 426, 18 hours; and 146, 24 hours. Of these 5852 cases, 1750 were first labours. It would be difficult to find a stronger proof of the short duration of the majority of natural labours. But let us pursue this a little further. In another account, out of 297 women delivered, 1792 were natural labours, leaving but 105 for protracted deliveries. Another account shews, out of 2947 labours, 3810 were natural presentations, and out of the 2947 only 128 lasted more than 24 hours. Again, Dr. Joseph Clarke gives 10,193 cases, out of which 9346 had ordinary labours, terminating within 24 hours. "These calculations shew, on various

clingly, that the births effected with comparative ease, and absence of danger, comprise a very large proportion of the total number of deliveries, and form a basis on which to doubt the propriety of administering chloroform as a general rule."

Dr. M. next considers the nature and properties of anæsthetic agents, which we shall pass over, by simply stating that Dr. M. adopts the opinion of Dr. Snow as to the mode in which the effects are produced.

*First stage.*—One of exhilaration of the mind, produced by a slight absorption of the vapour. Its continued administration develops gradually the other stages.

*Second stage.*—The induction of a dreamy state. The mind acts irregularly, but there is no want of consciousness of pain. Pain is felt, and respiration on the brain, would restore it quickly to its natural condition if no further inhalation took place.

*Third stage.*—Powers of the mind gone, but not perfect insensibility to pain; therefore unfit to bear surgical operation. This is the stage supposed to be sufficient for parturition, and certainly, *except at the moment of actual delivery*, I should not wish to go beyond this stage in any case.

*4th stage.*—Complete unconsciousness, no sensation of even the most brutal pain. Still the involuntary muscles continue their action. The fetus therefore may be expelled by the natural pains in this stage, although it is doubtful whether there is not an actual loss of power by the withdrawal of all action from the abdominal muscles, which in ordinary labours assist so much in child birth. But the activity of the involuntary muscles is partially affected even in this fourth stage, and rapidly passes on to the 5th or last stage, in which there is a cessation of action in the muscles of the uterus, muscles of respiration, and finally of the heart itself. It must also be borne in mind that several deaths have arisen from the exhibition of chloroform, and not one has been recorded where a restoration has been effected after the cessation of respiration. To secure the full effect of chloroform, it is then necessary to reduce the patient to a point very little short of death itself, which the author deems an interference with nature of immense importance, and justifiable only under very peculiar circumstances. Other means have been abandoned because they have *occasionally* produced irremediable consequences, yet they interfered less with nature's processes than the chloroform. Although chloroform is much under control, yet it passes from one stage to another with great rapidity, and sometimes destroys life unavoidably. The probable impurities of chloroform are then spoken of and to which, too much attention cannot be paid. Dr. Merriman does not enter into the theological discussion of chloroform, conceiving Dr. Simpson, and Dr. Conquest, have silenced every objector on that score. Dr. M. merely states, "far from any objection on religious grounds, to avoid the use of any supposed remedial agent, the medical practitioner is called upon by every law, both divine and human, to exert his utmost endeavours to relieve pain and disease, by whatever remedies are most efficacious, and at the same time least injurious. If injury follow the use of a remedy, that, and that only, is a valid reason against its further use. If the injury be small and the benefit great, the physician is at liberty to employ such remedy, whenever its superior properties are needed, and ordinary means



being unequal to effect the object desired. I can see no difference in principle between giving chloroform in midwifery, if it is clear that more benefit will follow its employment, than in using instruments, or other means to effect delivery when the labour pains have ceased, or some deformity, or other cause hinders the birth; and where, consequently, the infant's life must be sacrificed if means of hastening delivery be not employed." The question of improper use of chloroform, from fear of injurious consequences, is very different, and can only be resolved by experience. It does not appear to possess any peculiar property of value in midwifery, except the removal of the sensation of pain: others have certainly been attributed to it, but no satisfactory evidence has been advanced.

If then chloroform is to be used solely as an assuager of pain, whether is the pain, if endured, or the remedy to remove, calculated to do the least injury to the patient? The tables we have given, amply show that the ordinary sufferings of labour produce no permanent injury. Can we say as much for chloroform? Its action on the living subject is not yet fully understood, but it is known that under some circumstances, it destroys life rapidly, and requires great caution at all times. There cannot be a doubt, but that it has often been given with great advantage in surgical operations, and even as a medicine, it may be useful in midwifery, in extreme cases, if not pushed beyond the point before stated, otherwise it will defer, rather than advance, the completion of labour. The cases really requiring the assistance of chloroform, are extremely few.

"The reasons, therefore, actuating the physician to allow the inhalation of chloroform in simple cases, must be exceedingly strong, or he will violate the law of non-interference with nature, founded on the experience of many able physicians, during a succession of years, and although he may not notice any immediate ill consequences, he must expect to find some sooner or later." The judicious remarks of the author, as to other circumstances, to be attended to in respect to the parturient female, and his directions for the cautious administration of chloroform *where necessary*, are too long for quotation, but deserving the perusal of every seeker after truth.

This able pamphlet concludes in the following words. "With the best intentions, our exertions will occasionally be insufficient to prevent a fatal consequence; they may appear to have hastened it.

"If, then, a practice has been resorted to, the employment of which was not imperatively called for, and death ensues, whether arising directly from the treatment, or from other causes, how awful is the reflection that we have, in even the slightest degree, hastened the termination of life. Let us bear incessantly in mind that ordinary cases, require only ordinary means of relief, and that extraordinary remedies, can only be properly employed in extraordinary cases, where ordinary means are inapplicable or insufficient."

Here we must put an end to our critique, observing that we have not read a pamphlet of so few pages for some time, containing as much good sense, and so admirably put together.

## RETROSPECT FOR AUGUST, 1848.

**PRACTICAL LABOUR.—INFLUENCE OF INSUFFICIENT FOOD ON THE GROWTH OF THE FŒTUS.**—In the last number of the Journal you have inserted a case occurring to Dr. Frentruss, from which he infers that the fœtus may be *so reduced in size by starvation of the mother*, as to be born alive at the full period of gestation through a distorted pelvis; you will perhaps not consider the space misapplied in giving publicity to the following *controverting fact*.

M. R., reduced by the intemperance of herself and husband from easy circumstances to almost the lowest point of destitution, having barely sevenpence per diem for the support of the whole family, comprising herself, husband, and three young children, was delivered by me after a quick easy labour, in the month of August, 1843, of a *fine stout healthy boy*. She was then lying on the bare floor, covered only by a ragged quilt, in an apartment without one article of furniture, without the meanest necessities, and in one corner of which, were crouched her three, absolutely naked, children. No improvement whatever occurred in her circumstances, for they were *too proud* to apply to the parish, and their habits seemed to have disgusted every friend,—even their relatives had no compassion for them. I was, therefore, much grieved to be again called to attend in about fourteen months from the former labour, during the whole of which time she *suckled the first child*. The labour was again easy and quickly accomplished, and the child as well-developed and healthy as under the most favourable circumstances. The first child had become emaciated and sickly by the poverty of its *only food*, its mother's milk.

I leave the comparison of these cases, and the result, in the hands of your readers.

And remain faithfully yours,

Bath, August 3, 1848.

EVAN EVANS.

**REPORT OF A CASE OF FACE PRESENTATION.**—By ROBERT SELBY, Esq., SURGEON, BANNOCKBURN.—On the evening of the 20th ult. I was requested to attend the accouchement of Mrs. D—, the mother of four children. As her previous confinements had been protracted, notice was not given me until she had been six hours in labour, and on arrival I learned that the liquor amnii had been evacuated two hours previously. The patient was moving about the room, and suffering from regular but weak pains, with long intermissions. On examination, the head was found resting on the brim of the pelvis, presenting with the "face proper," so that the finger could be readily introduced into the mouth, the chin towards the pubis, and the os uteri dilated to the size of a dollar, soft and relaxed. It has been my common practice in such cases to leave them entirely to nature, and when the head has descended, if necessary, to facilitate delivery by the forceps. But from the nature of her previous labours—two of them having been terminated by the forceps—I calculated that, with the unnatural position of the head, the child at last must perish by this mode of procedure, and consequently determined on turning. Having administered eighty drops of solution of morphia, before proceeding to turn, I ex-

deavoured to rectify the position of the head, at all times a difficult process, but which in this case, from the liquor amnii having been so long discharged, was found to be impracticable. I then passed the hand into the uterus, but found it impossible, after repeated attempts, to reach the feet. A band of the circular fibres of that organ were spasmodically contracted round the body of the child, beyond which the hand could not be passed. It now occurred to me—as a hand could readily be reached—that if it were converted into a case of arm presentation, the body of the child would be so far advanced, and that turning would then be more easily effected. And as matters could not well be worse, I brought down the arm, and holding it firmly in one hand, immediately re-introduced the other, when I found no difficulty in reaching the feet and completing the delivery. The child was born in a state of asphyxia; but after a considerable perseverance in the use of the ordinary means calculated to produce a resuscitation, it eventually recovered. [We must confess the narration of this case is somewhat marvellous.—Ed.]

**A DICEPHALOUS FŒTUS WITH ONE HEAD BLACK AND THE OTHER WHITE.**—M. Prus has recently addressed to the Medical Society of Paris, a communication on a singular case, which occurred at Alexandria. The fœtus, which was born dead, had two heads attached to one trunk. The heads were well formed: one was white, and appeared to correspond to about the eighth month of uterine life; the other was black, of larger size, and had apparently reached maturity. In other respects, the child, which was a male, was normally developed. The shoulders, trunk, and upper and lower extremities, were white. The nails were imperfectly formed, and resembled those of an immature child. The alteration in the colour of the skin, commenced about the level of the neck of the black head. It was here brown, becoming gradually deeper, and passing imperceptibly to a deep black, extending over the whole of the head and face. M. Prus made a careful examination, and satisfied himself that the change of colour was not owing to any nevus, sanguineous congestion, or other morbid condition. When the epidermis was removed, there was a thick layer of pigmentum nigrum in the mucous tissue of the skin. He therefore referred this head to the negro type—an inference which was justified by its form and general aspect. The parents were *fellahs*—the mother was from 25 to 30 years of age; and the father about 30, a labourer in the port of Alexandria. Like all individuals of this tribe, they had a brown skin, with a yellowish tint. The woman died soon after her delivery: previously she had had five well-formed children, of whom four had been born dead.

The physiological questions which arise in respect to this monster are difficult of solution. Did the two heads belong to different types, fellah and negro? Is it a case of superfœtation in which two ova have been separately fecundated, the one by a negro, and the other by a white; the ova becoming fused with the exception of the two heads? If this were the case, it is difficult to understand why some portion of the skin of the trunk and extremities should not have been equally black. M. Prus remarks, that there are negro labourers in the port of Alexandria, but he could not ascertain whether the mother had had intercourse with one of that race. A committee has been appointed by the Society, to draw up a report upon this very remarkable case.—*L'Union Médicale*.

**CASE OF TUMOUR IN THE VAGINA IMPEDING LABOUR.—EXPULSION OF THE FETUS BY NATURAL EFFORTS.**—COMMUNICATED BY W. FLOTT, ESQ. Mrs. Springer, aged thirty-nine, requested me to attend her in November. She had seven children, the youngest three and a half years old; said she had always severe labours, and had been delivered four times with the forceps. Her general health was good. I went to her in labour at half-past six p.m., on November 15. On examination, the os uteri was found well dilated, the presentation natural, and there was no material want of capacity. I therefore anticipated a sufficiently quick delivery, and asked her why she expected a bad time? She now, for the first time, mentioned the existence of a tumour in the vagina, which had never shown itself till her last confinement, and which she attributed to injury received from the forceps in the preceding labour. On making a second examination I found a tumour lying between the rectum and vagina, hard, unyielding, and about the size of the human kidney. No evidence could be obtained as to the increase which might have taken place in this tumour in three years and a half, as she had been last delivered at Croydon, and had undergone no examination till this evening. It was quite clear, that as the labour progressed, this substance would oppose a very serious obstacle to the passage of the fetal head, and so it turned out; as the uterine efforts brought the head lower down the tumour was pushed before it. After waiting until nine o'clock, and not making any perceptible progress, I thought it best to have a consultation. My friend Mr. Williams agreed with myself—as she was positive the tumour was there in her last labour, and still she had been delivered naturally; moreover, as she was in good spirits and nowise exhausted—that we should do wrong not to give her every chance of a natural delivery, although the circumstances were altogether very unpromising. At the same time we thought it right now and then to attempt to push the tumour back into the hollow of the sacrum when the pains were strong. At first this seemed but a vain attempt; still we agreed we would not altogether abandon it. Thus we went on till about half-past one next morning, when the very insignificant progress we appeared to have made almost convinced us that we must have recourse to craniotomy, the forceps being obviously of no use. At this time she expressed a strong wish to be allowed to get out of bed and bear down her pains in a perpendicular posture. To this no objection was made. In a short time her vehement cries arrested my attention, and I went up to see how matters stood. She had returned to her bed, and the pains were very strong. On examining I was glad to find that part of the tumour had receded while the head had evidently advanced. I now resumed my efforts to push back the tumour; and in this way, by half-past two, the fetus was expelled. The placenta came away as usual.

With the exception of a little abdominal tenderness and fever, her recovery was as quick as in most other cases, and she is now in good health. She has been warned as to the probable consequences of another pregnancy; unless the tumour could be removed, and has been requested to get the best London advice as to what can be done in that matter; but I do not think she has seen any one on the subject. The case seems highly instructive, as exhibiting the wonderful resources of Nature under very discouraging circumstances, and showing how much may be done by patience and perseverance where success

is at all within the bounds of possibility. Tumours have existed within the vagina at the time of labour, but I do not remember reading any history of the means adopted to effect delivery, except in a case related by Dr. Murphy, of the London University, in his pamphlet on Chloroform. In that case he was obliged to have recourse to craniotomy. In some of its features, therefore, the case above related may be called almost unique. [The author's reading must have been limited: we wonder the tumour was not found at the first examination.—ED.]

**DOUBLE FÆTUS.**—Dr. Lyell, of Dundee, relates a birth of a double fœtus in the *Edin. Month. Journal*, which was communicated to the Obstetric Society, by Professor Simpson. It agreed with St. Hilaire's class of junction, or fusion of two fœtuses extending from immediately below the apex of the sternum to below the umbilicus. Dr. Lyell's description of the mode of delivery was ingenious and interesting. One of the fœtuses lived eighteen hours, the other was born dead. Two plates are given in the journal, one shewing the anatomical disposition of parts at the junction. [Why should such be called monsters? we hope to see that term erased from obstetrics; in this case there was no *monstrous formation*, both fœtuses were perfect as far as they were developed; the arrest of development of a part is not monstrous. Show us an Elephant's trunk on a human child, and then we will admit monstrosity.—ED.]

Another case is reported in the *Lancet*, August 25, very similar to the above, which the author calls a *lusus naturæ*. [We had thought this term had been buried in the tomb of the Capulets.—ED.]

**ETHERIZATION IN LABOUR.**—By Drs. Putnam, Roux, Clark, and Murphy. —Dr. Putnam has adopted this practice in nineteen cases, and states that he has not observed any serious accident immediate or remote, that could be attributed to the use of ether, and that he has never met with any formidable symptoms. In the commencement of labour, he believes it may promote the dilatation of the os uteri, and it dissipates the despondency and irritability which often attends this stage. Towards the close of the labour it is to be given without reserve. Dr. Putnam has failed to detect anything unusual in the pulsations of the fœtal heart during etherization, and no ill consequence to child after birth could be observed. In regard to the mother, he believes that its use eminently accelerates her convalescence.

Dr. Putnam thinks that the etherization diminishes both the parturient efforts and the resistance offered to them by the soft parts of the mother, and consequently that the duration of the labour is in most cases unaffected. In some rare cases, however, he believes that the ether suspends the process of parturition, and must consequently be laid aside. We shall give his concluding paragraph in his own words:—"There are conditions, however, in which the positive unequivocal advantages of ether far outweigh any temporary evils: in which it is not merely yielded to the patient's comfort, but demanded by her necessities. The muscular action may be inordinate, wasting the strength without advancing the labour—inflicting injurious pressure upon the soft parts, and thereby compromising the safety of mother and child. These, besides various mental disturbances, are materially controlled and relieved by the use of ether. Above all, in obstetric operations, the patient is saved *much suffering*. Apart from the prostration and other immediate and remote evils consequent upon the use of antimony, opium, and resection, which,



to be effective, must be full, they often fail to produce the desired relaxation and repose. If the cases related should not prove to be exceptions, we have in ether a most valuable auxiliary. Any one who has encountered the resistance and benumbing pressure of the uterus in a case of difficult turning, will feel that it was here pre-eminently useful. Under the particular combination of circumstances the operation might have been difficult and dangerous, if not impossible, unless by means of an unjustifiable degree of force. In no case is violence more to be deprecated."—*Boston Medical and Surgical Journal*, February 2, 1848.

After a careful investigation of the subject of etherization in labour, Dr. Rour has arrived at the following conclusions. 1st, That females in the puerperal state suffer no injury from the inhalation of ether;—2nd, That in ordinary labours it annuls the pain without interfering at all with their progress;—and 3rd, That in difficult labours it is highly desirable, in order to prevent the suffering attendant upon them.—*Gazette Médicale*, October 9, 1847.

We shall quote Dr. Clark's own words, containing the conclusions at which he has arrived on the use of ether in obstetrical practice. In his paper he details sixteen cases:—

"In general, (he says), any morbid state was rectified by the ethereal influence, so that nausea and vomiting disappeared, convulsive tendencies were removed, and the pulse raised if previously depressed, and lessened in frequency if antecedently too rapid.

"In most cases, a perfect etherization destroyed the painfulness of labour, even when the patient retained consciousness. In other and rare instances, the sufferings were abated but not removed, even when the intellectual powers seemed lost for the time.

"Generally, the duration and frequency of the labour-actions were lessened without any apparent retardation of the usual result of the labour; nor does there seem to have been any unusual proclivity to hemorrhage in my cases.

"On the whole, my trials of ether, as a torture-saving agent, have been satisfactory to me and my patients, and a sufficient number of cases have come under my notice, to justify me in the continuance of the use of a remedy which seems not only to save sorrow and suffering in common cases, but to be doubly useful when there are morbid complications. The extraordinary length of time during which delicate females can bear a strong etherization, seems to me to put at rest, if that has not been done by others, any reasonable doubt of its perfect safety, when used in the simplest manner, by respiring through a sponge."—*Philadelphia Medical Examiner*, March, 1848.

We shall merely quote in addition the conclusions arrived at by Dr. Murray, in regard to the use of *chloroform* in parturition. 1st, Chloroform does not interfere with the action of the uterus unless when given in doses too large. 2nd, It relaxes the maternal passages, and especially the perineum. 3rd, It subdues nervous irritation and restores nervous energy. 4th, It secures to the patient some hours repose after delivery. 5th, Its injurious effects, if any, when an ordinary dose is given, seem to depend on constitutional peculiarities or improper management.—*Lancet*, April 19, 1847.

ACCIDENTAL ANÆSTHESIA DURING LABOUR, FROM AN OVER-DOSE OF MORPHINE.

of waters of the ovum; as it did not expand at the next expulsive effort, and presenting a feeling different from the ordinary membrane, the finger was passed by it into the vagina, the vertex was found presenting in the most favourable position, with the os uteri dilated about two inches in diameter, and the waters of the ovum already discharged. The protruding part had no connection with the os uteri, but was connected or passed through the vagina, a little to the left of the middle and near the superior part of the pubis. The patient had several times complained of what was understood to be simply a bearing down, usual with many females in a state of gestation. Previous to her marriage there was never anything made its appearance external to the labia, but since she became *enceinte*, and more particularly for the last few months, whenever in an erect posture, either sitting or standing, a tumour was continually external, and she had frequently an uneasy sensation in the region of the left ovarium. After the passing of the placenta, the protruding sac was returned within the vagina, and her recovery was as favourable as could be expected from any ordinary labour; but immediately on her rising from bed the sac with its contents protruded again, and was a source of much inconvenience. On inspection it was found to consist of a membrane having numerous small bloodvessels on and near its surface, running in various directions, presenting all the external appearance of the scrotum of the male, and on making slight traction it always occasioned pain and uneasiness in the vicinity of the left ovarium. After introducing a gum catheter to establish the fact clearly that it was wholly unconnected with the urinary bladder, it was punctured with a crown lancet, and about two ounces of limpid serum escaped. No benefit was derived from this simple operation. It did not retract within the vagina, while the irritation produced in walking prevented the puncture from healing; it became corrugated, thickened, and pus formed. With a pair of scissors the protruding portion of the sac was severed; the remainder retired to the superior part of the pubis, where could be distinctly felt the cut edges. After the operation no treatment was required, nor was the patient confined to her bed at all. A slight soreness above the pubis on the left side was felt for a few days. The same female in her second labour presented no mark of there ever having been any malformation; her labour was favourable, and she is now in good health. Was this malformation a sac connected with the left ovarium?

**DROPSY IN PREGNANT WOMEN.**—In the *Prot. Medical and Surgical Journal*, August 9th, the following translation appears from the writings of Devilliers and Regnault:—

The study of dropsy in the pregnant female, associated with albuminuria, is surrounded with difficulties, inasmuch as we have not only to regard the subject of albuminuria itself, but have also to consider the numerous and important questions connected with the state of pregnancy.

We shall study together, dropsy with albuminuria in its simple form, and in its complication with convulsions; the latter being, in reality, one of the consequences of the disease.

**Predisposing Causes.**—Among the various changes wrought in the system of the female by pregnancy, those which are impressed upon the blood deserve the first consideration. In three cases of dropsy with albuminuria, in which

the blood was examined, no very remarkable alterations were discovered, excepting in the quantity of albumen, which was greatly diminished, (from 61.34—56.39,) the ordinary proportion being 68.6. The water, on the contrary, was increased, (\$12.46—\$28.85,) instead of 800.62.

We have never been able to accomplish the discovery of urea in the blood, as has been done by Christian, Gregory, Rees, &c. We explain this by the fact that our cases were in the incipient stage. All that we have been able to ascertain at present is, that the elimination of albumen by the kidneys has a powerful influence on the composition of the blood, and this materially favours the occurrence of serous effusion.

The age of the patients affected, does not in our experience offer any interest as regards predisposition. Temperament appears to have more influence, as all our cases were lymphatic females. A previous state of feeble health does not predispose to this form of dropsy; but the existence of the disease in one pregnancy, renders its recurrence probable in future ones.

*Occasional Causes.*—Those writers who have closely investigated the history of Morbus Brightii, regard vicissitudes of temperature, moisture, &c., as frequent precursors of the disease. We have not been able to verify this observation, and the same remark has been made by Lever and Cohen. M. Rayer, however, attaches great importance to these agents. Insufficient food may possibly have some influence in the production of the disease, but we have in vain sought for evidence of the great influence attributed by English writers to intemperance.

Some authors explain the occurrence of albuminuria during pregnancy, by the compression of the ureters and renal veins, by the gravid uterus. We do not deny the fact, but we think the opinion open to discussion. Were this the case, albuminuria would be far more common in pregnancy than it is.

It remains for us to inquire whether the diseases which accompany gestation or are induced by it, have any influence in the production of albuminuria. One class of diseases in particular is thought to induce dropsy with albuminuria, as is well known,—viz., the lesions described under the denomination of "Morbus Brightii," "granular degeneration," and "nephrite albuminense." We hope to be able to determine what amount of weight ought to be attached to this opinion.

*Symptoms.*—In the study of the symptoms of this form of dropsy, it is necessary to establish three divisions. 1st, the characters and progress of the serous infiltration; 2nd, the albuminous excretion; 3rd, the complications.

*Precursory Signs.*—Dropsy with albuminuria, in pregnant women, is sometimes preceded by giddiness, fainting, &c., which disappear when the infiltration is established, but in many other instances no such premonitory symptoms are recognized, the dropsical effusion being the first to attract attention.

*Incursion and Progress.*—1. During Pregnancy.—It is necessary to remember that albuminuria may occur in pregnant women without any dropsical accumulation. When the latter symptom does declare itself, it may be at very different periods. Thus we have known it commence with pregnancy, and also to show itself in other cases at the third, fourth, fifth, sixth, seventh, and even as late as the ninth month. The same diversity has also been remarked by M. Rayer and Dr. Lever.



## RETROSPECT FOR AUGUST.

A small number of instances the dropsical symptoms have appeared suddenly, attaining a considerable development in a short period of time, but in the larger proportion of cases they are more chronic in their progress. The infiltration ordinarily first shows itself in the ancles, but often subsequently appears in the face.

**After Labour.**—As a general rule, this form of dropsy, however severe it may have been, disappears within a few days after delivery, seldom remaining beyond the tenth day, often departing as early as the third.

The distinctive character of this form of dropsy, is the presence of albumen in the urine, as may be ascertained by appropriate tests. In ordinary cases the symptom is not observed as an accompaniment of pregnancy, although M. Dequereel has advanced a contrary opinion. Other writers have stated that albumen may be found in the urine of females soon after delivery, but we have reason to suspect some error in their observations.

It is impossible to determine at what period the urine first becomes albuminous, because some oedema of the ancles is so common an affection of the pregnant state, that women do not complain until the affection has been of some standing. The quantity of albumen has never appeared to be in proportion to the amount of dropsical effusion; we have only been able to ascertain that it increases during labour, and rapidly diminishes after delivery.

**DISEASES OF CHILDREN.—VIABILITY.**—A female infant, born, according to the mother's calculation, in the sixth month, lived a day. It was nearly fourteen inches long; its weight about two pounds; the umbilicus was more than a half an inch below the middle point of the body; the circumference of the head was 8-746 inches; the fontanelles were very small; the lungs weighed little more than six drachms; the respiration had been complete; there was meconium in the ilium and great intestine. There was no morbid appearance to explain the cause of death. Everything showed that the defect of maturity was the sole cause of the failure of life. This, then, was the case of the birth of a living but not viable infant in the sixth month.

**SMALL POX.**—In the lectures of Dr. West, reported in the *Gazette*, he considers that vaccination has checked, but not extirpated the small pox. That the rate of mortality has not diminished the last fifty years.

**UMBILICAL HERNIA, COMPLICATED WITH PHYMOSIS.**—An interesting case is recorded by H. B. Norman, Esq., in the *Medical Gazette*, of August 4th., in which, after the operation for the phymosis, the hernia disappeared. The child was eighteen months old, the hernial tumour as large as a nutmeg, and easily reduced, and which disappeared after the operation. (We cannot see what connection these two cases can have with each other in their cure, more than a mere coincidence; the next case of the kind Mr. Norman may have to record, will perhaps be attended by a different result.—ED.)

**INTRA-UTERINE PERITONITIS IN THE FŒTUS.**—Dr. Simpson exhibited at the meeting of the Edinburgh Obstetrical Society a fœtus, which had evidently laboured under peritonitis, as was evidenced by the effusion of lymph on various parts of the peritoneum. He believed that the disease was more frequent than is suspected, as he had discovered its trace in many fœtuses which had died in the seventh or eighth month of utero-gestation.—*Mon. Jour.*, May.

**ANÆSTHETIC AGENTS.**—In the *Medical Times* for the 19th ultimo, Mr.

Braid, of Manchester, has published a paper in defence of anæsthetic agents, in opposition to the unfavourable impression excited by the late reports of patients having died from their use, during surgical operations. Mr. B. contends that Chloroform is not necessarily a dangerous agent, and one which ought, as such, to be abandoned, but alleges that the danger and deaths lately recorded as occurring from its use, ought rather to be attributed to some mismanagement in the mode of its administration, or the quantity given. In support of this opinion, he appeals to the uniform success and safety which has attended the use of Ether and Chloroform in his own hands, as well as those of the Professor Simpson, and the thousands of instances in which Chloroform was administered, at first, by others, also without accident. He, therefore, alleges that the recent fatal results have arisen from parties, flushed with the success of first attempts, having thereby become too bold or careless, in the subsequent use of an agent alike potent for good or evil, according to the mode of administering it.

Mr. Braid propounds the following rules, as those which have guided himself in the use of anæsthetic agents, and which he expresses himself confident are sufficient, if strictly attended to, to guard against misadventures in the hands of others:—

1. That no operation should be attempted under the influence of anæsthetic agents, without a number of preparatory experimental trials having been made, prior to the day of operation.
2. That the vapour breathed at first trials should be much diluted, and the strength gradually increased, so that the proper strength and quantity should be determined on for each patient, prior to the day of operation.
3. That, when circumstances may render it necessary to perform the operation without delay, it should rather be done with the risk of slight manifestation of pain to the patient than be carried so far as to endanger ultimate safety.
4. That the anæsthetic agents should always be inhaled in a diluted form at first, so that the respiratory organs may become tolerant of them in that state, before they are applied in such a concentrated form, as may be requisite to narcotize the patient sufficiently for an operation.
5. That in no instance should the narcotizing influence be carried immediately, (preparatory to an operation) beyond that stage which previous trials have proved, readily recovered from by such patient.
6. That in protracted operations, the patient should be made to breathe a less concentrated form of the vapour after the first incisions, or the concentrated vapour and pure air alternately, in such proportions as may prove requisite to keep the patient slightly under its influence, but carefully guarding against inducing such degree of collapse, as might seriously interfere with the functions of respiration; for this reason, that, if the respiration becomes seriously depressed or suspended, we have no certain means of rousing the patient and removing the impending danger, as it is through the lungs chiefly that the anæsthetic agent is eliminated from the blood.
7. That an operation should never be undertaken when the patient is only partially narcotized as to be capable of feeling acute pain, as in such condition, with many patients, the pain, and emotion, and shock to the nervous system, are likely to be far greater than if they were in their natural state.

8. That patients labouring under grave diseases or disorders of the brain, heart, or lungs, ought not to be subjected to the influence of anæsthetic agent, at all, or only slightly so, and with great caution.

9. That in no instance should a female be narcotized without a third party being present.

These rules are similar to those published by Mr. Braid in the spring of last year, relative to the use of ether. They evince so much care and caution as to commend themselves to the best attention of all who wish to resort to the use of chloroform in future.

In respect to the use of chloroform in midwifery, Mr. Braid remarks "During labour, the best method is to keep the patient only partially under its influence, because if too profound, the labour-pains are thereby entirely suspended; whereas, with a smaller dose, suffering is subdued, whilst the labour goes on more vigorously than if they were in the natural condition."

Where patients have been too profoundly narcotized, Mr. Braid recommends blowing in their faces, and on their necks and chests, with a pair of common bellows, as the most efficient mode of exciting the functions of respiration, which is the great safety valve in an over dose of chloroform; and should that fail, that then artificial respiration should be immediately resorted to, together with the other means usually recommended in cases of suspended animation.

**PHLEGMATIA DOLENS.**—Is tumefaction of a limb, from inflammation and obstruction of the main lymphatic trunks leading from it.

The *fascia cribriformis*, which is thickly perforated by the lymphatic trunks from the inferior extremity, becomes inflamed by extension, either of inflammation of the peritoneum, along the sub-peritoneal tissues, or of the crural vein; the result of uterine phlebitis.

Phlegmatia dolens, I believe, never occurs except as a sequela of puerperal fever; and occasionally in the last stage of malignant disease of the uterus, in the unimpregnated state, in which case, it seems to result from absorption of putrid discharges, the patient being unable to rise from the supine posture.

The symptoms, are stiffness, tension, and pain, commencing along the hip, and gradually extending along the groin and thigh, followed in a few hours by the swelling; if connected with crural phlebitis, the most intense pain will be felt in the course of the femoral vein; the whole extremity is left much enlarged, elastic, immoveable, and of white creamy colour.

The treatment for puerperal fever, has probably been premised; the vicinity of the crural ring should be leeches, and afterwards covered with cold applications. The lin. camphoræ co. should be freely applied to the whole limb. If the femoral vein be felt hard and rolling under the finger, leeches should be applied along its course.—*Rigby's Obstetric Memoranda.*

**PUERPERAL MANIA.**—Is of two species, *sthenic*, and *asthenic*, the one coming on during, or immediately after, labour, with all the symptoms of phrenitis; of rare occurrence, but generally fatal; the other sometimes not appearing till several weeks after labour; the result of exhaustion from hæmorrhage, suckling, &c., much more common but rarely fatal; the *sthenic* demanding active antiphlogistic treatment; the *asthenic*, opiates, attention to the bowels, tonics, nourishment, and weaning.—*Rigby's Obstetric Memoranda.*

**REMARKS ON THE EMPLOYMENT OF ANÆSTHETIC AGENTS  
IN MIDWIFERY.**—By G. T. GREAM, &c., &c., 8vo., P.P. 37. LON-  
DON, CHURCHILL, 1848.

We shall dismiss this work in very few words, because our table is crowded with pamphlets on the same subject, day after day, without adding anything new to the question. Certainly this is the most partially written of any we have ever read, and therefore least deserving of credit.

**ON SCARLATINA, AND ITS SUCCESSFUL TREATMENT BY  
THE ACID ACET. DIL.**—By I. B. BROWN, Esq. LONDON, CHURCH-  
HILL, P.P. 66, 1846.

We have had it in contemplation to notice this little work some time ago. It is, in the first place, a neat and well written essay on scarlatina; its derivation, origin, various forms, modes of treatment, &c. The author relates a number of cases from his own practice, in which he endeavours to prove that the exhibition of the Acid, acet. dilut. of the London pharmacopœia is a remedy of no mean importance in the treatment of this often fatal disease. We must confess we are not so sanguine on its merits as the author. The formula advised, after clearing out the bowels, is—

R. Acid. Acet. Dil. ʒii.

Syr. Simpl. ʒiv.

Aqua. Distillat. ʒiii M.

One fourth part every three hours. This for a child three years old, increasing its strength in proportion to age, until at fifteen he gives the diluted acid of the London pharmacopœia in doses of two drachms. The cases related are carefully recorded; and we feel no doubt the author is convinced that the plan of treatment is efficacious. Of course we cannot dispute facts; and therefore this little work should be read carefully by those whose practice is amongst such diseases.

**THE PERIODOSCOPE, WITH ITS APPLICATION TO OBSTETRICAL  
CALCULATIONS, AND THE PERIODICITIES OF THE SEX.**  
—By W. B. TYLER SMITH, M.B., &c., &c., LONDON. LONDON, 8vo.,  
P. P. 47. CHURCHILL, 1848.

We have been solicited, by many of our subscribers, to give an opinion of this production, otherwise we felt very reluctant to occupy space for such a purpose. It is, however, a very remarkable exhibition: and, *if necessary to the profession*, proves what a sad falling off there must be in the great body of practitioners of this country. However, we feel confident that Dr. Tyler Smith need not have wasted his time in catering for the profession by the introduction of so unnecessary and worthless an apparatus, which only reminds us of the large brass plate above the chair of a self-weighing machine; and we

could almost fancy the author standing at a street corner, with his dial plate, offering his services to every female *acciente* passing by, foretelling, to a minute, what to expect this week, and what next.

Now, with all the known difficulties attendant on ascertaining the exact period of impregnation (known only in a very few cases, and those too few to ground an opinion upon), together with the uncertainty of the period of gestation, which we ourselves have shown to be dependant upon age, and a variety of other circumstances not of one but both parents, Vide *British Record*, No. 11, page 212, it is really too bad to ask a practitioner with common sense to have a dial plate to turn to, in order to point out when the *infallible number of days* predicated by Dr. Tyler Smith shall be completed. Even supposing his dial to be never erring, does he suppose the practitioners of this country so poorly educated as not to be able to calculate when a certain number of days will have expired, from any given date, without this moonlike machine; and if he cannot do it by memory, surely he has a pencil and his thumb nail, and we wish all practitioners better employment than consulting the periodoscope.

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#### RETROSPECT FOR SEPTEMBER, 1848.

PRACTICAL LABOUR.—UTERINE HÆMORRHAGE.—Dr. Silvester, of Clapham, in the *Proc. Med. and Surg. Journal*, Sept. 6, 1848, writes a somewhat lengthy article on the bi-tartrate of potass being almost a specific in cases of uterine hæmorrhage. He defends himself, first, by treating very generally on what are termed specifics, and, although we have read his remarks with much pleasure, we still harbour the opinion that there is *not one real specific* in the *materia medica* for any disease, no, not even the vaunted ones, mercury, sulphur, iodine, quinine, &c. If mercury was really a specific for syphilis, it would cure every case of that nature, and secondary symptoms would never occur. If sulphur was really a specific for the itch, how does it happen so often to fail in curing it; the result is this, after thousands of years of experience, we have not one single remedy that we can positively say *will* cure any certain malady: when such a remedy is found we will help Dr. Silvester to call it a specific, nay, more, we will dub it the *philosophers' stone*, for it will richly deserve the title, until then we must content ourselves with classing the bi-tartrate of potass as a powerful means in *some* forms of uterine hæmorrhage. Dr. S. says truly, hæmorrhage may arise from many causes,—separation of placenta, polypus, malignant ulceration, fungoid growth, &c. Now we think Dr. S. will not say his remedy is a specific in these cases, no! he says *it is equal to any other remedy*, so, after all, its powers are like other boasted specifics, *limitable*. Dr. S. then proceeds to shew its efficacy in menorrhagia, floodings after abortion, a form of leucorrhœa, &c., which we readily grant, and consider highly probable. In cases where the bi-tartrate was given Dr. S. noticed the blood soon changed from a dark to a lighter colour, and some apparent changes in the urine. In conclusion, we consider the bi-tartrate *worthy of trial*. We have long given the ergot in connexion with the borax,

sodæ, and sometimes with the bi-tartrate of potass, with evident advantage in uterine hæmorrhage.—ED.

**PLACENTA PRÆVIA.**—A case is related in the *Med. Times*, by Dr. Waller, in illustration of the plan proposed by K. Wood, and Drs. Radford, Simpson, &c. Case 34, August 20, 1848. Was requested to meet my friend and neighbour, Mr. Dempsey, in consultation; from him I learned that his patient, a lady of very delicate habit, had experienced slight uterine pains for the previous twenty-four hours. Although this lady had arrived at the full period of uterogestation, no blood had been lost until within the last two days. During the night hæmorrhage to an alarming extent had supervened, the female becoming very faint; to restrain the bleeding, Mr. Dempsey had plugged the vagina with a sponge. On my arrival at her house, I found the patient in a tolerably tranquil condition, having greatly recovered from the effects of the bleeding. In order to ascertain the precise condition of the parts, I removed the plug, and made a careful vaginal examination, and found the os uteri to be sufficiently open to allow the introduction of two fingers with tolerable facility. The remaining portion was rigid and exceedingly undilatable. Under the old system of managing these cases nothing could have been done at this period; we must have waited for the return of pains to have effected the necessary degree of dilatation, which, as every one conversant with this fearful complication of labour knows, is almost invariably accompanied with fresh hæmorrhage and a still further diminution of the vital powers—a consequence greatly dreaded by Mr. Dempsey, as his patient had already suffered severely. The placenta was attached completely over the os uteri, a considerable portion of uterus intervening; and, as the os itself was situated high in the pelvis, there was more than the ordinary difficulty experienced. Having introduced my hand into the vagina, and two fingers through the os uteri, I succeeded in detaching the placenta from its remaining connection with the uterus. Not the slightest bleeding followed the operation; and, after waiting about three-quarters of an hour, I left the patient in a very composed state, and inclined to sleep, giving directions, at the same time, to be immediately sent for, should any unpleasant symptoms make their appearance. Fortunately these symptoms did not occur, and I had the satisfaction of hearing that this lady passed two or three hours in a very tranquil state, that labour pains then came on, and delivery was effected without difficulty. This case was to me one of great interest, as the position of the placenta rendered its separation somewhat difficult.

The event, however, was very satisfactory; and I record it as another instance tending to prove the fact, that complete separation of the placenta in these presentations is not necessarily followed by any increase of hæmorrhage.

**ABORTION FROM FRIGHT.**—One of the unfortunate female passengers on board the *Ocean Monarch*, aborted in consequence of the fright from her perilous situation; the same female's dead body was subsequently floated ashore. What must have been the last agonies of this unfortunate creature when birth and death were thus at once struggling within her.

**DISEASES OF WOMEN.—DISPLACEMENTS OF THE UTERUS.**—Dr. Bell, of Glasgow, writes a very interesting article on this subject in the *Monthly Journal of Medical Science*.—First:—As to *Retroversion*, a condition which he states to



be of frequent occurrence: that parturition is a frequent cause, except in those cases which have not been pregnant. In these latter cases, enlarged uterus, or long-standing dysmenorrhœa, particularly *dysmenorrhœa*, always tends to produce enlargement, and thereby lead to abnormal positions. *Antiversion*, though esteemed by French writers as the most common affection of uterine displacements, yet Dr. Bell has seen but few cases. *Retroflexion*, doubted by many writers, Dr. Bell considers of frequent occurrence. The causes of this and antiversion are pretty nearly the same as retroversion. Denman's account of this latter displacement is very correct. *Antiflexion* stands in the same relation to *antiversion* as *retroflexion* to *retroversion*. Treatment most judicious must be to restore the organ to its normal size and position. The mere restoring the position is not sufficient, for it will soon relapse, if the condition be not removed. Remove the congestion and hypertrophy, and the organ will resume its position. It is often impossible to restore its position, even temporarily, from its size. Dr. Bell, therefore, prefers removing congestion and inflammatory action before replacement. Judging from his own practice, Dr. Bell considers few cases require mechanical assistance. The principal objects to be attended to in treatment are, recumbent position, regular state of the bowels, local depletion, mercurials, and lastly, mechanical treatment, by supports, pessaries, &c. Dr. Bell does not appear sanguine of the mechanical means, and has succeeded in effecting cures by medicine where mechanical means have failed. This valuable paper concludes with some interesting cases in favour of medical treatment.

ON THE TREATMENT OF PUERPERAL FEVER.—BY C. M. MILLER, M.D., &c., STOKES NEWINGTON.—My attention has of late been drawn to the subject of puerperal peritonitis, commonly called puerperal fever, from having heard of several fatal cases; and I hope I shall not be thought obtrusive by giving an outline of the plan of treatment which I have very successfully adopted in several cases that have come under my immediate notice. Before, however, proceeding to the therapeutics of the disease, it may be as well to state what I consider its symptoms, that I may not be misunderstood as to what I have thus treated.

I look upon puerperal peritonitis as that disease which is ushered in, from the second to the fourth day of confinement, by shivering, accompanied by acute pain, radiating from the region of the uterus, increased on pressure, and gradually extending all over the abdomen, with suppression of lochia and milk, much accelerated pulse, furred tongue, great heat of skin, and that peculiar pain in the sinciput which is so well described by my late lamented preceptor, Dr. D. D. Davis—short breathing, the knees drawn up, and great anxiety of countenance. If the lochia be not entirely suppressed they become exceedingly foetid. When, after a slight shivering, I do not find any hardness of the breasts, my attention is immediately directed to the uterus, this shivering being generally the first symptom which presents itself.

When these symptoms are present there is no time to be lost, and I believe, that by active treatment in the first instance many valuable lives may be saved. I immediately order eight or a dozen leeches to be scattered over the abdomen, and to be followed by a linseed or bran poultice; the vagina to be washed out with tepid water, and, if the lochia be foetid, an injection of

chloride of soda used; large doses of calomel and opium to be given every three hours; and beef tea administered at intervals; the calomel to be pushed to approaching ptyalism: when this commences, the calomel to be remitted. Should the pain not yield quickly under these means, I either apply more leeches, or, if the strength will not allow of them, make use of the turpentine poultice; the effect of this last is in many cases almost magical.

There is nothing novel in this plan of treatment, but I may state, from the experience of the last eight years, during which time I have had several cases of this nature, that while energetically following out this plan I have lost but one case, and that in a person who had suffered from disease of the brain for some years previously. It is highly important that the patient should have a nurse who will carry out the plan to the very letter, and, where practicable, the medical attendant should see it done in person, and he will be amply repaid for his extra attention, by the saving of his credit, all of us knowing too well what the public opinion is respecting a person lost in childbed. Where the calomel, (which is, unfortunately, sometimes the case,) in spite of its combination with the opium, runs off by the bowels, an enema of two ounces of starch, with half a drachm to a drachm of tincture of opium, will generally stop the annoyance.—*Lancet*.

SINGULAR CASE OF HYSTERIA AND CATALEPSY.—Communicated by H. HASTINGS, M.R.C.S. and L.A.C., Stokenchurch, Oxon.—As cases of catalepsy are of rare occurrence, so much so that the celebrated Dr. Cullen, and many other both ancient and modern physicians, never met with one, I beg, therefore, that you will be good enough to lay before your numerous readers the following curious case.

Mrs. G., aged thirty years, of full habit of body, married, in general healthy, had one child, separated from her husband some time, on account of some unpleasantness between them, was attacked by hysteria on the 16th of June ult., caused by her receiving doleful news in reference to her husband. At this time she was menstruating. In eight days from the above date she was perfectly recovered, and came to reside with her sister in Stokenchurch. On the 14th of July, a month after her former attack of hysteria, she again received doleful tidings regarding her husband when seated at the supper table; she rose somewhat abruptly, and left the room. Her sister shortly afterwards heard a rumbling noise up stairs; she instantly repaired thither, and found Mrs. G. lying on the bedroom floor. On visiting her I found her in bed, and to all appearance dead; but, upon examination, found a slight pulsation; skin warm; breathing quite imperceptible; eyes open, and apparently intently fixed upon some object in the room; pupils much dilated and perfectly sensible to light; a placid smile rested on her countenance; teeth and hands firmly clenched; extremities flaccid, and remained in whatever position they were placed; bowels had been relieved in the morning; urine natural; catamenia absent. Frictions were applied simultaneously to all the extremities, with a strong stimulating embrocation during the frictions; she caught hold of an individual who was assisting in rubbing her, and it required him to use considerable force to release himself of her grasp. Her pulse, in about two hours after using the frictions, became much stronger; head very hot, and countenance flushed. I then abstracted about  $\text{ʒ} \text{ii}$  of blood, which reduced the pulse con-



siderably; could not get anything into her stomach. Remained as above all night.

15. mane. No alteration. Applied sinapiens to the calves of the legs, soles of the feet, and epigastric region. Towards evening got her to swallow chlorid. hydrarg. gr. v., pulv. opii gr. iss., misce fiat pulvis, statim, and applied a blister to the nape of the neck.

16. Passed the night as before. About midnight catamenia came on, and towards evening she broke her silence of fifty hours by exclaiming "Where am I?"

17. Passed a tolerably good night, eat a good breakfast, and got up complaining of nothing but a headache, which continued for a few days. She is now in the enjoyment of good health.

*Remarks.*—The above case strikingly illustrates the effects of the mind upon the nervous system, producing, in the first case, hysteria; and in the second stage producing catalepsy, and this directly subsiding upon the appearance of the catamenia. It is my firm belief that, had she not been menstruating when she received the first intelligence from her husband, catalepsy would not have been the result.

I am not aware that any physiologist has pointed out this singular influence in the female economy, and how to account for it certainly puzzles me, unless I am to attribute the cause of the loss of balance in the nervous system to uterine irritation being produced by the sudden shock of the mind reflected to the uterus, whilst that organ, in the first instance, was in an excited state and undergoing its periodical excretions; which, probably, acted as a safety-valve to undue nervous depression, as we find in the latter case, that directly nature opened these valves, if I may be allowed the expression, the nervous system assumed its proper functions, and each subordinate organisation was restored to its proper state.

These, of course, are merely conjectures, which I fancy come as near a proper physiological definition of the singular occurrences as we can arrive at.

**PHLEGMASIA ALBA DOLENS—DEATH. PHLEBITIS WITH OBLITERATION OF THE RIGHT ILIAC VEIN.**—Louise Prevot, a servant, aged twenty-two, entered the hospital under the care of M. Trousseau. She had been confined a month; her labour was very protracted, and it was necessary to apply the forceps in order to accomplish delivery. Five days afterwards she was seized with phlegmasia alba dolens, which was attended with fever, and the patient was obliged to keep to her bed. At the time she entered the hospital there was oedematous tumefaction of the abdominal region on the right side. Pressure produced very severe pain at the posterior and superior part of the right leg. The abdomen was soft and inactive; fever intense; and depression considerable. Auscultation showed pneumonia of the right side through its whole extent, with pleuritic effusion at the inferior parts. Two bleedings were had recourse to; the blood was very firm. Ipecacuanha was administered, and a pectoral tisane.

Although, in addition to these means, a large blister was applied to the back, the disease made rapid progress. The pneumonia increased, and, with it, the depression and fever. The pulse became small, compressible, and very frequent. The adynamic condition of the patient was most marked; the skin

became excruciated near the sacrum; the respiration embarrassed more and more; certain cerebral phenomena manifested themselves, and the patient died six days after her admission into hospital.

The autopsy was made twenty hours after death. The right primitive iliac vein near its junction with the vena cava, the external iliac, the femoral, to within five or six centimètres of the crural arch, were completely obliterated. The femoral vein was pervious near the popliteal cavity. All the deep-seated veins of the right limb were obliterated. In the primitive iliac the obliteration was produced by a fibrinous mass, containing a notable quantity of a liquid, somewhat like pus, mixed with serum. The periphery of the stratum was composed of fibrinous matter to the extent of eight or ten centimètres, adherent to the neighbouring veins. At this point the veins were thickened and rigid, like that of a large artery, but without redness. Immediately beneath, a puriform liquid filled the vessel; and still lower, the obliteration was caused by a large clot, composed partly of fibrine and partly of blood. The clots in the deep vein of the leg were formed in the same way.

In the thorax there was purulent effusion on the right side. Pneumonia on the same side, with small purulent spots scattered throughout. There was also peri-pneumonia of both lungs. The abdominal viscera were all healthy. No obliteration or any appreciable inflammation of the uterine cavity. No alteration of the internal surface of the uterus, or in the substance of the organ.

**SCLEREMA.**—A female, who had been confined about eight days, entered this hospital with her infant affected with jaundice. The yellow colour of the integuments was as distinct as possible. It was soon seized with diarrhoea; attended with vomitings, and, after a few days, the feet became indurated, and subsequently the legs. By degrees the induration extended to the thighs, the arms, and the cheeks. No impression could be made on the skin when the finger was pressed upon it. The temperature of the body was very sensibly diminished; the respiration was free. On a careful examination of the chest with the stethoscope, not the least rale could be discovered. Five days after the commencement of the induration the infant gently expired.

Half an hour before opening the splanchnic cavities, an incision was made through the skin from the feet to the abdomen. Not a drop of serum exuded. The adipose tissue was perfectly dry, the fat consolidated. In the parts which had become thickened there was very little infiltration into the cellular tissue. A little pulmonary obstruction was discovered, without pneumonia.

We append to this case another perfectly similar. An infant, five or six weeks old, died also the fifth day after the attack of sclerema, which occupied all the subcutaneous cellular tissue, and which had also begun in the feet and legs, and gradually extended to the thighs, the trunk, the arms, and at length to the face. The general temperature of the body was considerably diminished; there was marked coldness, particularly over the thoracic cavity. The child gently expired on the fifth day. At the autopsy the lungs were obstructed, but without pneumonia. The cellular and adipose tissues were found, on cutting into them, perfectly sound. On pressing them strongly, not a drop of serum escaped. The fat appeared consolidated in the cellules of the adipose tissue. During life, when strong pressure was made on the skin with the finger, very slight indentation only could be produced,

**MAMMARY SECRETION.**—Dr. Peddie, in the *Monthly Journal*, gives a very interesting paper on this subject; the following are a few of the remarks, of great utility, to be found in it:—

The best artificial nourishment is cows' milk, but diluted from one-third to one-half, slightly sweetened, according to the age of the child, as it is richer than human milk. The milk of the goat and sheep are nearly similar in strength, and that of the ass is lighter; but were the taste and smell of all these agreeable to every child, they are not generally and regularly procurable. The "*pan and spoon*" system is unquestionably pernicious to newly-born children; but when the fourth month is attained, then supplies of rusk, arrow-root, barley-meal, and other light farinaceous food, may be begun in small quantities, and varied as they are found to agree with the infant.

Children of tall spare women are said never to thrive on the milk of those who are short and stout.

Too much weight, I believe, has been attached to the complexion of nurses, as to whether dark or fair women are preferable. Those who present a medium aspect are the best, always keeping in view the other qualifications desirable.

When the milk is found too rich for the digestion of the infant, and is creating disorder of its stomach and bowels, it is of importance to give diluents freely, such as barley water, or thin gruel prepared from groats; the latter of which is particularly beneficial, especially in the earlier days of suckling. It is of great consequence, also, to attend to the state of the breasts in all instances of faulty secretion. In cases of too great richness of the milk, it has been observed by M. Péligré, that allowing it to remain longer than usual in the breasts, tends to an increase of its serous or watery part, and therefore the child should not be applied in such cases very frequently. Regarding the general management of the breasts, I have already, in the foregoing pages, thrown out a good many hints, more especially as to the prevention and treatment of engorgements. In the case of weakly and unproductive nurses, a great deal may be done to improve the quantity and quality of the milk, by due attention to the regularity and the frequency with which the breasts are given, and the amount of supplementary supplies which may be necessary for the infant at different stages during lactation. Although many interesting topics connected with the above subjects, and the influence of exercise, mode of life, &c., on successful lactation, yet remain for discussion, these must be set aside for the present, as I have already exceeded the limits permitted me.

**PROLAPSUS OF THE OVARY.** By Dr. Rigby.—After relating a case of inflamed ovary, where one of its most marked effects was profuse and long-standing menorrhagia, Dr. Rigby remarks, that in the case the symptoms varied from their ordinary course, and depended upon the position of the ovary, being much more backwards than usual, and almost approaching to the hollow of the sacrum; hence the inguinal pain generally felt in cases of oophoritis was absent, and, as usual in cases of retroversion, the pain was confined to the region of the sacrum, and greatly increased by the passage of solid feces through the rectum. This displacement of the ovary downwards and backwards into the recto-vaginal pouch, when in a marked degree, forms

a most agonizing affection. In three or four cases which Dr. Rigby has seen, the ovary has been found lower than usual, and approaching nearly to the central line. The slightest touch produces severe pain, of that sickening intolerable character which pressure on the testicle produces in the male, and especially when it is inflamed. Prolapsus of the ovary is the name given to this affection by Dr. Rigby. — *Medical Times*, August 26th, 1848.

ON THE MUCOUS MEMBRANE OF THE UTERUS.—By M. Robin.—In a lengthened memoir upon the anatomy and pathology of the uterine mucous membrane, Dr. Robin lays down the following as the conclusions resulting from his observations:—1. There is a mucous membrane of the uterus, and, far from being excessively thin, especially within the cavity of the uterus; it is there that it has its greatest thickness,—a thickness which exceeds that of any other portion of mucous membrane in the human body. 2. This membrane contains, in its substance, tubular glandules visible to the naked eye when the uterus is unimpregnated. 3. These glands are joined together by a peculiar tissue and by vessels, and it is the union of these different elements which constitutes the chorion of the mucous membrane, although there is in it nothing analogous in exterior anatomical disposition with that of the other internal tegumentary tissues of the body; this peculiar structure is the fibro-plastic tissue, which, normally, is found no where else than in this organ. 4. This mucous membrane is covered by an epithelium, which alone is the part ordinarily described as constituting the mucous membrane.

M. Robin agrees with M. Coste and M. Bischoff, that there is no such thing as the decidua vera and reflexa, as far as these are considered membranes newly formed. The decidua vera is the hypertrophied or otherwise changed uterine mucous membrane. The decidua reflexa is an expansion of the former, or of its folds around the ovule. It is a sort of maternal placenta, whose chief functions continue only as long as the chorion is covered on all its surfaces with villousities, which play the part of the foetal placenta. — *L'Union Médic.*, 7 Septembre, 1848.

INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES.—By Dr. Bennet.—The almost universal view of the profession, that this disease is all but characteristic of the puerperal state, and very rarely occurs under other circumstances, our author considers as very far, indeed, from the truth. The disease is not at all rare in the non-puerperal state, and is often confounded with acute or chronic metritis, iliac abscess, or some other pelvic lesion. In the puerperal form of this affection, and owing probably to the increased quantity of fibrin contained in the blood, there is a greater tendency to active inflammation. Hence, if the structures contained in the lateral ligaments are attacked with inflammation it has a tendency to spread to the peritoneal folds and the surrounding tissues, giving rise to the formation of large pelvic inflammatory tumours, abdominal adhesions, intestinal perforations, &c., often ending in death. In the non-puerperal inflammations the purulent collections are more limited; the inflammation seldom attacks the peritoneum, and the abscess generally disappears in a latent manner, bursting into the rectum or vagina.

The most frequent seat of this inflammation is the cellular tissue which separates the peritoneal folds and surrounds the ovaries, round ligaments, and

Fallopian tubes. It may be produced by any cause which exaggerates the vitality of the uterine system. It may occur in connexion with ulcerative disease of the cervix, or from a severe fall.

The swelling to which it gives rise may often be felt above the pubes, but an accurate diagnosis can be made only by a vaginal examination. The whole may disappear by resolution, but more generally it ends by suppuration, and the discharge of pus by the rectum, vagina, bladder, or through the abdominal parietes.

The treatment in the acute stage is the same as in ordinary phlegmonous inflammation, only it requires to be more active. Bleeding, leeches, cathartics, and mercurials are the chief means to be resorted to. Dr. Bennet places most reliance on the repeated application of leeches to the abdominal parietes, immediately over the seat of the inflammation. In the chronic stage, when the parts are not so tender as at first, the application of leeches internally is very useful.—*Lancet*, Feb. 5, 1848.

**DISEASES OF CHILDREN.—ANASARCA INFANTILE.**—Mr. Herepath, of Bristol, in the *Prov. Med. and Surg. Journ.*, Sept. 20, 1848, relates a case accompanied with albuminous urine, which did not yield to treatment. The child was only ten weeks old. At the post-mortem examination no structural cause was elicited for the death. Every organ was anæmic and pale, scarcely any colouring matter; had the patient been bled to death it could not have been purer. The hepatic system was slightly congested.

**HÆMORRHAGE FROM THE UMBILICAL CORD.**—Mr. Hill was called to an infant, eight days old, from whose navel there had been bleeding for five hours. Several applications had been employed without effect. The child appeared considerably sunk by the discharge; the cord was thick, and vessels apparently large. He first put a small compress on the part, which was retained by the pressure of the finger. He mixed up two table-spoonsful of plaster of Paris in a cup with water into a thick paste, and hastily removing the compress, he let the contents of the cup flow out on the part, where it immediately settled and hardened. He remained with the child some hours, and kept the abdomen partially exposed to the air; a few cracks having taken place on the plaster, he filled them up with fresh. He then put a bandage on the infant, removing it occasionally, and filling up the cracks that took place for the purpose of keeping the plaster solid, which was repeated for four days. It was then removed, and the bleeding did not return. On examining the cast there appeared three small papillæ, which the author supposes corresponded to the two arteries and vein which they occupied until the vessels became impervious.

Mr. Hill claims no merit of originality for this practice; he took the hint from Dr. Churchill, who, in a very excellent paper on the umbilical cord, published in the 50th volume of the *Edinburgh Medical and Surgical Journal*, page 302, for the year 1838, has suggested such treatment.

**EMPHYSEMA OF THE NECK AS A TERMINATION OF HOOPING-COUGH.**—By Wm. Bird Herepath, M.B.—A case is related in the *Medical Times*. The swelling appearing in front of the neck, above the sternum, and which ended fatally. A carefully conducted *post-mortem* was made on the 21st. Decomposition had not commenced. The dissection of the neck clearly showed the air to be in the cellular tissue, beneath the deep cervical fascia, and around the

trachea. The whole of the cellular tissue here was emphysematous, and it passed downwards behind the sternum into the anterior mediastinum, the cellular tissue in which was excessively distended by air. The lungs were also broken up by emphysematous dilatations: the upper lobe on the right side was most extensively disorganized by it; many of its cells were as large as currants and grapes, and all of them were larger than natural. Air was proved to pass from the root of the upper lobe of the right lung into the anterior mediastinum, behind the pleura; therefore, one of the distended emphysematous lobules at the root of this lobe must have given way, and allowed the air to escape into the cellular tissue in the manner described. The other organs of the thorax and abdomen presented no appearance worthy of remark; they were all anemic. No air existed in either of the pleuritic cavities.

This case is an interesting one—the rarity of its occurrence makes it especially worthy of note. Upon reference to Dr. Copland's "*Medical Dictionary*" I find that emphysema of the cellular tissue of the neck has already been noticed to occur, by two writers, after whooping-cough. Not possessing the original communications, I am unable to say whether both these cases were fatal; but from the urgent dyspnoea in this particular instance, and the irremediable nature of the injury, I must presume that it is almost impossible to be otherwise than a very fatal accident. The peculiar shape of the tumour is at once indicative of the affection; I should now have no difficulty in recognising it again in a moment; it is evident to every anatomist, that the peculiar shape is owing to the attachments of the cervical fascia to the various salient points about the neck, which, of course, did not permit the air to insinuate itself under the fascia in these positions. I greatly regret that auscultation was not practised upon this little patient's thorax, to elucidate the cause of the dyspnoea on the 15th. Had I done so, the condition of the lung would have been detected, and the cause at once revealed. It would have been impossible, however, to have foreseen this accident; in fact I should never have expected it, as, until the present case happened to me, I was perfectly ignorant of its existence.

ON OPEN FORAMEN OVALE.—By Dr. Mayne.—One of the consequences of this organic defect is, to permit the venous blood to pass, in quantities more or less considerable, from the right side of the heart directly into the left, without traversing the lungs or undergoing the process of respiration. The assemblage of symptoms produced in this manner by the admixture of the venous with the arterial current at the *left* side of the heart, and the consequent circulation, throughout the system at large, of blood imperfectly aerated, constitutes a form of cyanosis well known to physicians. Comparative anatomists are also aware, that the human circulation, thus perverted, is somewhat analogous to the normal plan of the circulation in many of the reptile tribes, and that individuals so afflicted resemble in certain functions the animals to which they may (not inaptly) be considered as blood relations. The records of medical science abound with examples of cyanosis thus produced.

Other cases there are, in which the foramen ovale remains permanently open *without* producing cyanosis; and certain it is (let the explanation be as it may) that a patent condition of the aperture in question is compatible with a long life, and with a healthy condition of the circulatory and respiratory functions.

Much ingenuity has been displayed by writers, particularly those of the French school, in attempting to explain such dissimilar results from one and the same organic lesion. In many instances, where an open foramen ovale produces no disturbance of function, the valvular disposition of the aperture, or its small size, prevents any interchange of the venous and arterial blood; and in others, the ventricles, the auriculo-ventricular, the pulmonary, and the aortic orifices, retain their proper dimensions, and the auricles their just proportions, so that the blood at either side of the septum flows onwards in its natural course, without impediment, and consequently no intermixture arises.

There is still, however, a third class of cases of the same malformation. In these, arterial blood passes from the left side of the heart into the right, through the open foramen ovale, and thus a mixture of arterial with venous blood taking place in the right auricle, the current transmitted to the lungs for aeration is a mixed fluid, consisting partly of venous and partly of arterial blood. This deviation from the natural course of the circulation is the converse of that already described as producing cyanosis; in the one, the current flows from the right auricle into the left, depriving the lungs of a portion of the blood which ought to circulate through them, and supplying the system at large with a mixed fluid, partly venous and partly arterial, thus causing cyanosis; whilst in the other, the current flows from the left auricle into the right, depriving the system at large of a portion of the blood which ought to supply it, and transmitting to the lungs a mixed fluid, partly venous and partly arterial.—*Dublin Quarterly Journal*.

MISCELLANEOUS INFORMATION.—DEATH OF DR. WM. CAMPBELL.—We regret to have to announce the decease of our respected townsman, Dr. Wm. Campbell. He has for many years been known as an eminent accoucheur. His reputation has not been limited to this country alone, his writings in the particular department of medicine professed by him having procured him a European fame. A portion of Dr. Campbell's works have been translated into German, and the medical and scientific societies of Berlin, Vienna, Heidelberg, and other foreign university towns, conferred on him the honour of membership. To the gentlemen who have studied at the medical school of this city he has been long and favourably known as a successful teacher and attached friend. We have heard it said that the pupils of his class are scattered over the entire globe; and that not a few of them are indebted to his instructions and kind offices for their present position and success. To the poor when in distress his services were at all times available, and for many years he supported two dispensaries for their benefit at his own expense. By all classes of our fellow-citizens, as well as by our medical school, his loss will be severely felt.—*Edinburgh Register*.

**THE TRANSACTIONS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. VOL. XVI., PART 1. OCTOBER. PP. 175. LONDON, CHURCHILL, 1848. PLATES.**

The last part of the Provincial Medical and Surgical Association Transactions is one which we believe will give general satisfaction; and we only regret that our rule will not allow us to notice the volume, as a whole, at any length. We may, however, without infringing much, state that it contains an excellent retrospective address by Dr. Shearman, not of common-place generalizations, but forming a valuable essay on some of the most important diseases of the chest, in which may be found some excellent remarks on consumption. The plates illustrating this address are most excellent. The second article—*On the Existence of Free Carbon in the Human Body*, by Dr. Paxton; illustrated with plates, is also a most valuable paper; as well as two others—one on *Medullary Sarcoma*, by Dr. Morris, and the other on *Fever*, by Dr. Davies. In respect to the Memoir of Dr. Holme, of Manchester, we could have wished he had possessed a much smaller share of talent, so that a portion had been of some use to the profession. We are willing to be one of his admirers, (as we were once his pupil,) but we want material for admiration. A few literary scraps only, with a physiological sketch of the nerves of the heart, and some observations on the colour of Negroes, all put together not occupying many pages, are all that remain to form our opinion of this denominated great man. The memoir itself, however, is ably drawn. The writer could not have done more with so small an amount of material; and we agree with him, that "*Dr. Holme is to be mentioned with reverence, rather for the possession, than the EXERTION, of uncommon abilities.*"

Of the last paper in the volume, namely, *On the Cerebral Affections of Children*, by Valentine Duke, M.D., we shall show our opinion by quoting largely from it in our *Retrospect*. We therefore refer to those quotations as exhibiting a fair specimen as to how the subject, as a whole, has been treated by the talented author.

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**REMARKS ON CHLOROFORM IN ALLEVIATING HUMAN SUFFERING, ADDRESSED PARTICULARLY TO THE FEMALE SEX.—BY W. H. BAINBRIDGE, ESQ., LIVERPOOL, &c., &c. OCTOBER. P.P. 43. LONDON:—S. HIGHLEY, 32, FLEET STREET, 1848.**

Pamphlets justifying the use of chloroform are now become so very numerous, that it is impossible that we can devote much space to each. Mr. Bainbridge combats the arguments raised against it by religious enthusiasts very successfully; in fact, all that is necessary to be known on this part of the question may be found in the pamphlets of Professor Simpson, Dr. Protheroe Smith, Mr. Stallard, and Mr. Bainbridge. The arguments of the last gen-



clesman are equally convincing with those of the former. We consider the use of chloroform firmly established. There cannot now exist a doubt, either as to its justifiability or utility. In accomplishing this position Mr. Bainbridge has contributed very largely. The only fault we have to find with many of our personal friends who are enthusiastic in its use, is—that they scarcely ever admit in their writings that the remedy may be *abused*. They seem to forget or overlook (we hope not wilfully) that lesions of some important organisms *do and will exist*, where its application cannot be otherwise than *mischievous*; of the heart, large blood vessels, lungs, &c., for example. They forget, too, that idiosyncracies will also interfere, in spite of its announced general application. In conclusion, we recommend Mr. Bainbridge's pamphlet for perusal to those who are still sceptical as to its use, and beg of our readers to understand we never opposed its useful application; but as long as we have an opportunity of giving our opinion, we hope always to condemn its indiscriminate adoption. *Universal panaceas are not our panaceas.*

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RETROSPECT FOR OCTOBER, 1848.

**PRACTICAL LABOUR.—TURNING AS A SUBSTITUTE FOR CRANIOTOMY AND THE LONG FORCEPS.**—Professor Simpson continues his elaborate paper on this important question, in the *Provincial Med. and Surg. Journal* for Oct. 4th, in which number the eighth division of the subject is discussed, viz., the supposed objections to the practice in relation to the life of the mother.

**TURNING AS A SUBSTITUTE FOR CRANIOTOMY AND LONG FORCEPS.**—By Robert Collins, M.D., Dublin.—In the *Prov. Med. and Surg. Journal* for Oct. 18.—This letter is in answer to Professor Simpson, of Edinburgh, of whom he loudly complains, for having misapplied the statistics as published by him some years ago; or, in other words, of having selected parts only, for the illustration of his own theories, which are at variance with the facts when the calculations are taken as a whole, as they ought to be in all statistical inquiries. The immense experience of Dr. Collins, his high reputation as a successful accoucheur, entitle his opinions to the most attentive consideration of the profession.

**TURNING, &c.**—The disputed points at present discussing between Professor Simpson, of Edinburgh, and Dr. Collins, of Dublin, are assuming a personal feeling, which, we are sorry to observe, in pursuing scientific inquiries. Unfortunately, too, both gentlemen take different modes of making their statistical inquiries, and drawing their conclusions therefrom; it is to be sincerely regretted when such is the case, medical science rather retrogrades than advances by such proceedings.

**ADHERENT PLACENTA.**—Dr. Mackay exhibited a placenta, presenting calcareous deposits and fibrous bands upon its uterine and fetal surfaces, but particularly upon the former. It was adherent to the uterus, and in the act of detaching it, was found to tear with great readiness, so that more than ordinary care was necessary, in order to secure its complete separation and removal, which, happily, was effected, together with the membranes. Soon

after the placenta was extracted, and although the uterus contracted generally and firmly, hæmorrhage came on, and with short intervals continued to recur for the space of eight hours, during which the amount of blood lost was very great, and the consequent exhaustion proportionately alarming. From the cessation of the hæmorrhage, however, the patient has been recovering, and is now, on the tenth day after her confinement, quite convalescent.

The following are the points in this case which appear most instructive, and worthy of attention :—We have here an instance of the placenta being adherent in two successive pregnancies, without any cause which could have led to it being known. Those who have been much engaged in midwifery practice, are aware that this occurs in some persons in several successive pregnancies ; and, consequently, when a person, in whom it has been once observed, becomes pregnant again, it becomes the duty of her medical adviser, to use such precautions as are likely to prevent its recurrence, which, in some instances at least, it is probable may be done. For example, had the subject of the present observations not disregarded the pain she suffered over the fundus uteri, but, on the contrary, had she sought for advice regarding it, and been judiciously treated, it may be presumed that the morbid process would have been arrested, and its important consequences averted. Whenever there is pain and tenderness upon pressure over the situation of the placenta, as indicated by the stethoscope, with or without constitutional disturbance of a febrile character, an inflammatory or hyperæmic condition of that organ may be inferred, and demands appropriate treatment for its removal. In removing an adherent placenta, with other precautions, it is important that in detaching it, care should be taken not to lacerate its substance, so that by examining it after its removal, the operator may be able to ascertain beyond doubt, whether he has succeeded in removing the whole, or not. In the present instance, had the placenta and membranes not been so perfect as to preclude all question upon this point, the manner, severity, and obstinacy of the hæmorrhage which followed, would have justly excited suspicion that part had been left behind, as was the case on the occasion of the previous delivery. Not only would there thus have arisen great additional anxiety to the medical attendant, but likewise, in all probability, additional hazard to the patient, from injury being inflicted by further efforts to remove the portions of placenta supposed to have been left behind.

**DUPLEX FÆTUS.**—Mr. Jakin, of London, in the *Medical Times*, of Oct. 14th, records a case of this nature, to which he still attaches the absurd term of monstrosity. The case presented considerable difficulties during the labour, which was managed skillfully by Mr. Jakin. The fœtuses were joined at the sternum, both males, and weighed seven pounds each ; length, fifteen inches.

The dissection exhibited the usual anomalies presented by such cases, which serve no purpose in recording. The points most interesting in such births are the difficulties of, and the mode adopted for, delivery.

**CASE OF TWINS OF DIFFERENT SIZES WITH PLACENTA TO EACH.**—**TURNING OF THE FIRST CHILD.**—By W. T. Barker, M.D.—On the 9th of Sept., 1848, I was called to Mrs. B., aged 45, in her tenth accouchement. On my arrival she had pains occurring regularly every half hour; she said they

had been present for three weeks, but not confined to any particular region till now, when they were in the loins; her tongue was white, pulse 90. I gave her hydrarg. c. creta gr. iv., and pulv. rhei gr. xiv., to be taken at bedtime, with ol. ricini in the morning. She continued the same till the 13th, when small pox made its appearance; but all this time the pains continued regularly every half hour. On the 15th I was requested to be with her, as the pains had been regularly occurring every five or six minutes since the forenoon. At three o'clock p.m. I found the os uteri fully dilated, shoulder presenting, waters discharged nearly an hour. I proceeded to turn. She was soon delivered (at half-past four o'clock p.m.) of a small male child, weighing four pounds and a half, having all the appearance of a child of eight months. On again examining I found the membranes of a second child presenting. The case soon terminated with the birth of the second child, and of the average size, living. Each fetus had its placenta joined by a thin membrane, but the substance of each was distinct from the other. The mother recovered rapidly, and is now doing well. The placentæ also differed in size as much in proportion as the fetuses. [We see nothing very remarkable in this case more than a simple arrest of development in the latter months of pregnancy.—ED.]

PRETERNATURAL LABOURS.—A series of lectures is now publishing in the *Medical Gazette* on this subject, by Dr. Murphy, of University College, extensively illustrated by sketches (imitations of plates of which the public have long been in possession from other authorities). These lectures promise to explain, (with the help of the illustrations) in a very lucid manner, this important department of midwifery; beyond this, we see nothing particularly new in them. We shall, however, occasionally turn to them, and if we find anything worthy of notice we shall apprise our readers of it.—ED.

ACCIDENTAL EXPULSION OF A CHILD, WITHOUT ITS EXPERIENCING ANY INJURY FROM THE FALL.—A woman of short stature, thirty-four years of age, strongly built, gave birth to a child in an ordinary labour one year after marriage. On the 10th July, being near the end of her second pregnancy, the period of gestation was accidentally terminated. She was engaged in a violent dispute with her husband, which was nearly coming to blows; she abruptly rushed into an adjoining room, and was in the act of sitting on the bed, when suddenly strong labour came on. Before she could reach the door and call for help, the pains became so severe that she was obliged to lean for support against a chair; at the same moment the child fell suddenly to the ground, without being at all injured. On the visit of Dr. Pickford he found not even a bruise on the vertex, on which the child had fallen. The placenta was expelled as he entered, and it showed that the cord had been ruptured at about the distance of two inches from the umbilicus. The child was strong, and fully developed.—Dr. Pickford, in *Henle's Zeitschrift für rationelle Medizin*, vol. vii. part i. p. 25.

FORCEPS CASE.—By J. H. Davis, M.D.—*Lancet*, Oct. 14.—April 1st, 1846, nine p.m., I was requested by a medical friend to come to his assistance in a case of labour. The subject of it was thirty-three years of age, was in her first pregnancy, and had been in labour since one a.m. I was informed that the liquor amnii had come away twelve hours before, in the midst of active pains, and that the orifice of the uterus became quickly after fully dilated.

ted; that the head had been in the pelvic cavity six hours. I found the head in the pelvis, and a considerable tumour of the scalp projecting at the os externum; an olive-coloured discharge appeared on the examining finger. The patient was restless, anxious in countenance; the skin was hot, yet moist; pulse sharp, 100, not resistant; tongue coated with a whitish-brown fur, patient of a delicate habit of body. The direction of the face ascertained to be to the right sacro-iliac synchondrosis. The head being arrested, not impacted, I determined (interference being strongly called for) to deliver by the *forceps*. The catheter, as usual, was first introduced, and some urine, previously felt distending the bladder, above the pubes, was drawn off, (about ten ounces.) The patient was properly adjusted on a mattress at the edge of the bed, the upper thigh raised by an assistant, and the forceps, with the pelvic curve and wide fenestræ, those of my own modification, were applied without difficulty. Three steady tractions, during the pains, brought the child, a fine, girl, into the world, in a state of asphyxia. It was fully restored, however, after half an hour's employment of the ordinary means—viz., the hot bath, inflation of the lungs, friction of the surface, and percussion of the nates. The placenta was thrown off in twenty minutes, by good contraction of the uterus, into the vagina, and thence removed. The report on the following day was—child vigorous; not a single bad symptom about the mother; the bladder responded without assistance; the lochial discharge was good; and beyond the obvious treatment required to disperse a full flow of milk to the breasts, nothing occurred demanding especial attention.

**PLACENTA PRÆVIA.**—By W. F. Askham, Esq.—I was requested to visit H. M.—, aged forty, in labour of her sixth child, all of which had been natural and easy. She was at the full period, and, during the last month, the least exertion brought on flooding. In consequence of this, the nature of the case was suspected, yet as there were no pains, and the os uteri not dilated, I advised perfect rest, recumbent posture, with the use of acidulated drinks. During the day preceding delivery she had trifling pains, with considerable discharge, which in the evening was so profuse as to alarm a midwife who was called in until my arrival.

I found she had lost and was still losing a great deal of blood; she was blanched, restless, constantly sick, and pulse nearly imperceptible. An examination discovered the placenta over the os uteri; the liquor amnii not discharged. I carefully examined for an edge, under which I passed my hand into the uterus, and found the shoulder presenting. I brought down the feet, and in a short period delivery was accomplished; the placenta followed quickly; pressure was made over the uterine region, and a dose of ergot given. The uterus contracted well, hæmorrhage entirely ceased, and the woman rallied, and had a favourable but protracted recovery. The child was dead.

The immense quantity of blood the poor woman had lost, and the exhausted state in which I found her, at once showed that, unless prompt measures were used, a fatal termination was at hand. In these formidable cases I believe delivery is the only remedy in which we can place any confidence.—*Lancet*, Oct.

We wish the term *placenta prævia* to be confined to cases where the placenta is ejected before the child—and *placental presentation* to such cases as the above.—E.

**PLACENTA PRÆVIA.**—By J. H. Davis, M.D.—*Lancet*, Oct. 14.—At the request of a medical friend, I went to his assistance, in the case of a lady, aged twenty-nine, in labour of her third child. The two previous births were cross presentations, and had been effected by turning. The present labour had commenced on the previous evening, setting in with flooding. I found the placenta partially presenting. The liquor amnii had been intentionally discharged at two a.m., with a view to stop the flooding; nevertheless, hæmorrhage had continued more or less throughout the day; the pains had been trifling and irregular. At my visit, I found the patient blanched, and much weakened by the previous discharge of blood. The hæmorrhage had very much increased in amount latterly, which had led to my being hastily summoned. I found the pulse 130, irregular, and feeble; the os uteri rigid, and dilated to the size of a five-shilling piece. It was impossible to turn, on account of the rigid condition of the os tincæ. I exhibited on a cambric pocket-handkerchief, by inhalation, three drachms of chloroform, of good quality, in divided doses, the first of which produced a sleep (preceded by delirium, without violence, of half a minute's duration) of three minutes; after which, the patient vomited once slightly. A quarter of an hour's sleep—without preceding delirium, and without subsequent vomiting—which continued for a quarter of an hour, in which I was enabled to turn the child without difficulty, and without consciousness to the patient, succeeded to the last dose. The placenta was immediately afterwards thrown out of the vagina by the natural efforts, the patient still asleep. I now threw open the window, and sprinkled cold water over the patient's face. Thereupon she recovered her consciousness, and could scarcely believe our assurance that the child was born, and that all was over. The child was premature, of seven months' gestation, blanched, and without life, as was to be expected. The uterus contracted well, and excepting debility and anæmia for a time subsequently, the patient's recovery was uninterrupted.

**STATE OF THE INTERNAL SURFACE OF THE UTERUS AFTER DELIVERY.**—By Dr. Colin.—The extensive researches of this author have led him to the following conclusions regarding the state of the internal surface of the uterus after the expulsion of the mature ovum. They agree with the doctrines of Sharpey, Coste, &c., and we believe them to be well-founded.

1. It is not the case that, after delivery, the internal layer of the muscular tissue of the uterus is laid bare.
2. A vascular membranous layer is retained, and covers the muscular tissue.
3. This layer does not differ from the decidua vera, or, in other words, the uterine mucous membrane.
4. This layer is not carried away with the lochiæ, nor destroyed even when the discharges are purulent.
5. Some flakes of membrane, probably detached during labour, are sometimes discharged with the first of the lochiæ; but the essential vascular part remains.
6. This part is the seat of the process set up to reproduce the perfect internal membrane of the uterus.
7. Purulent lochiæ, instead of resulting from the disorganisation of this layer, are the consequence of the reparatory process set up in it.
8. This layer regains its natural mucous constitution twenty or thirty days after labour.
9. The new mucous membrane is, at first, pulpy, thicker and more vascular than normally.
10. From this time its elements recontract; and
11. About the sixtieth or

seventieth day it has regained its own proper condition.—*L'Union Médicale*, 20, Augt., 1848.

**TWO CASES OF CÆSAREAN SECTION.**—Dr. Putegnat.—The first case is that of a woman, æt. thirty, who, eighteen months previously, had been safely delivered by the forceps, and to whom Dr. Putegnat was called in consultation. The cavity of the pelvis was almost completely filled up by a fibro-cellular tumour, which was strongly attached to the ramus of the left os pubis, the obturator, and great sacro-sciatic ligaments. This tumour, equaling in size the head of a nine months' child, had, in its growth, displaced the rectum to the right side, and there was space only to allow the finger to pass between it and the ramus of the right os pubis. It was slightly moveable, and was at first taken for the child's head,—the uterine contractions forcing it firmly on the perineum during each pain. Dr. Gueury at once performed the Cæsaean section, and a living child was born. The woman died in forty-eight hours. On a post-mortem examination, the bowels were found highly inflamed, and the lips of the wound in the uterus were gangrenous. The second case is that of a woman, æt. thirty-six, in her first pregnancy. On arriving, Dr. Putegnat found the arm of the child lying in the vagina. The mother was completely exhausted, and had had convulsions several times. The abdomen was very tender to the touch. The antero-posterior diameter of the brim was so contracted that the hand could not be forced through it. The Cæsaean section was immediately performed, and the child extracted alive, but it survived only for a minute, and the mother died on the day after the operation. Dr. Putegnat regretted afterwards that he had not performed the Sigaultian section.—*Journal de Bruxelles, and Gazette des Hôpitaux*, 19th September, 1848.

**DISEASES OF WOMEN.—PROLONGED LACTATION.**—Dr. Moir, to the Edinburgh Obstetric Society, states a case of a lady who was unable to nurse her children, but in whom the secretion of milk was unusually protracted. Starvation, purgatives, diuretics, diaphoretics, and alteratives, internally and local astringents, were used without any effect but that of weakening the patient. Latterly tonics only were given. The secretion continued from one confinement to the third month of the next pregnancy. After her second child it continued eighteen months; after the third twenty-four months; after the fourth twenty-five months; after the fifth twenty-four months, when a miscarriage occurred, since which she has had no children. She had a mammary abscess close to the nipple, from whence the milk continually flowed, and prevented its healing up. The skin over the abdomen on the left side was much excoriated from the discharge. Dr. Peddie knew of a case where lactation continued for three years. [We have seen equally obstinate cases give way to the Acidulated Solution of Sulphur. Magnes. steadily persevered in.—ED.]

**ULCERATION OF THE OS AND CERVIX UTERI, TREATED WITH THE SOLUTION OF GUN-COTTON.**—By T. R. Mitchell, M.D., Dublin.—Having paid particular attention to diseases of the uterus for some years past, and employed all the various remedies recommended, both internally and as local applications, has induced me latterly to use the solution of gun cotton, as a local application, in cases of ulceration of the os and cervix uteri. I have also found it beneficial in cases of vaginitis without ulceration.

Having proved the value of gun-cotton solution in various cases of external lesions, I thought it would be of use in those under consideration. I have now given it a fair and impartial trial, and have no hesitation in recommending it as a most useful remedy. I have preserved full histories of the cases in which it has been tried, together with very accurate drawings taken from nature, and most faithfully executed by Mr. Neilan, which I shall take an early opportunity of showing to the profession.

The following is the method I have adopted in its application :—The patient being placed upon her left side, and the speculum introduced, the ulcerated surface is to be wiped dry with a succession of pieces of soft lint, until all adherent mucus is removed; a camel's hair pencil dipped in the solution is then to be rapidly applied to the ulcerated surface, and allowed to dry, which will occupy a couple of minutes—a second, third, and fourth coating, if necessary, can thus be applied; the first coating is followed by a slight burning sensation, caused by the ether, followed by a sensation of coldness from its evaporation. The application requires to be renewed at the end of forty-eight hours, as the secretion collects underneath the varnish, and detaches it. In cases of simple abrasion three dressings have proved successful: in more obstinate cases, and where large granulations have been present, I have used nitrate of silver, acid nitrate of mercury, and potassa fusa first, and then applied a varnish of the gun-cotton over the eschar, and have succeeded in curing extensive ulcers of the cock's-comb variety in half the time I have been able to succeed without the solution.

In cases of vaginitis without ulceration, I have found the painting of the walls of the vagina with the solution most beneficial. The difficulty, however, is to dry it well, which requires time and trouble, but in my mind the result amply repays both; the friction of the surfaces is prevented, and the amount of suffering, pain, and inflammation, consequently much diminished.

I may mention, although by no means bearing upon the above subject, that I have used the gun-cotton solution with great benefit in one case of obstinate psoriasis, and that the itching attendant upon this most troublesome disease, was greatly diminished, and the skin perfectly healed under the varnish. I am aware that it is wrong to draw conclusions from one case, and merely mention it in order that its value may be more extensively tried.

**HERMAPHRODISM.**—A very interesting case of this nature is detailed in the *Medical Times*, Oct., 28th, by Dr. Waller, illustrated by three spirited wood etchings, without which it would be difficult to give a satisfactory description of the case.

**THE ACTUAL CAUTERY IN UTERINE DISEASES.**—In many uterine complaints M. Jobert employs the actual cautery with considerable benefit. Thus, in hæmorrhage caused by organic disease, or attended by simple hypertrophy of the os uteri, or even unaccompanied by any appreciable alteration of the os tincæ, M. Jobert applies the hot iron, and generally succeeds in arresting the loss of blood. A large ivory speculum being previously introduced, the parts are burned with a broad cautery, and an abundant injection of cold water is performed immediately afterwards; hæmorrhage is instantly arrested, and reappears only on the sixth or seventh day, when the eschar becomes loosened; a second operation is then resorted to, and its results are more permanent,

the fungous vegetations having been destroyed. After a time, cauterization is repeated only once in six weeks or two months, and the patients are thus preserved from those continual losses of blood which generally hasten the fatal termination of cases of cancer of the womb. The application of the hot iron causes no pain whatever, and depriving the disease of its most formidable symptom, viz., hæmorrhage, arrests its progress, although it cannot, of course, prevent the final establishment of the cancerous diathesis. In passive hæmorrhage, the os uteri not being diseased, M. Jobert still employs the same method; he employs it even with a degree of boldness which we do not blame, but which we would scarcely imitate in the hæmorrhages which are occasionally observed during pregnancy. Finally, in uterine neuralgia, so common in cases of hysteria, M. Jobert does not hesitate to recommend the adoption of the same measure.

**RUPTURE OF THE UNIMPREGNATED UTERUS FROM A COLLECTION OF PUS IN ITS CAVITY.**—Dr. Guzzo, of Naples, relates in the "*Archives Générales*," the case of a woman aged thirty-four, married, but childless, who came under his care in June, 1837, with the uterus as large as the fifth month of pregnancy. Twelve months afterwards it nearly reached the umbilicus, and there was occasionally from the vagina a colourless discharge. In 1841, after the use of a purgative, the woman died, peritonitis having been induced, the uterus up to the period of her decease continuing to enlarge. A large quantity of pus was found at the *post mortem* examination in the abdomen, the uterus adhering to its walls from the pubis to the umbilicus, and filling the iliac and hypochondriac regions. In the uterine cavity was a large quantity of inodorous white pus; its walls were thickened, and contained in their substance tubercular masses, varying in size from an olive to a walnut, in different stages of development. Some of these abscesses were about opening into the cavity of the uterus, which was ruptured at its posterior surface. The woman from puberty had been subject to uterine pains and irregular menstruation.

**IODIDE OF POTASSIUM A CURE FOR A NURSE'S SORE MOUTH.**—Dr. H. D. Holt states (*New York Journal of Medicine*, May, 1848), that every case he has treated of this disease "has yielded within forty-eight hours to the use of iodide of potassium in gr. v doses three times a day."

**QUININE PROPHYLACTIC OF PUERPERAL FEVER.**—The idea that quinine is preservative against puerperal fever was started by M. Alphonse Leroy, of Rouen, in 1793. M. Leudet put it to the test in an epidemic which occurred in 1843, and lasted for three months, administering it before the accustomed period of the first appearance of the malady. For this purpose he employed the quinine in fifteen grain (one gramme) doses, and in the few cases it was then tried in, no fever followed. He repeated his experiments in two other epidemics, occurring in the years 1845 and 1846, when he found that those submitted to this medicine did not contract the fever. To give the statistics:—Of 83 women who entered the Hotel Dieu de Rouen, between September, 1843, and January, 1844, 74 took no medicine, and 21 of them were seized with puerperal fever, whilst the remaining nine were dosed with the quinine, and escaped contagion. Again—between July 8th and August 9th 1845, 26 deliveries occurred: 11 women were submitted to no medication,



and eight of them were attacked with the epidemic fever; of the 15 others, treated with sulphate of quinine, only one caught the disease. Lastly, between the 9th of March and the 21st of April, 1846, 36 women were delivered:—of the 19 who took no quinine, 11 were attacked; of the 16 submitted to its action, only one was seized with fever.

The following is the manner in which M. Leudet employs the quinine:—As soon as the newly-delivered woman has a little recovered the shock of childbirth—viz., in about four hours after delivery, fifteen grains of the medicine are given in the course of the twenty-four hours, in three portions. The same quantity is prescribed the next day, but on the third day it is diminished to ten grains, and the same dose is persevered in until the usual period of the accession of the fever has passed by, up to about the sixth day. The occurrence of milk fever is not always an indication to stay the quinine, for in very many cases that febrile disturbance is very slight.

The plan of using quinine as a prophylactic has been subsequently adopted in Paris by M. Cazeaux, who could, from his experience, however, make no report of its efficacy. Nevertheless, any remedy holding out such a promise, in so fearful a disease, should not be thrown aside until after a careful and repeated trial. On the other hand, hygienic measures must be looked upon as by far the best safeguards, both against the development and the propagation of puerperal fever.—*Lancet*, Oct. 2.

**PUERPERAL ARTICULAR RHEUMATISM.**—After relating a few cases of this affection, the author lays down the following as the most important practical conclusions to be derived from them:—1. That anti-puerperal and post-puerperal rheumatism should be considered as a formidable malady, demanding instant and serious attention. 2. That there is no single medicine upon which reliance can be placed. Blood-letting and the internal use of quinine, tartar emetic, or nitrate of potash, are the most powerful remedies. The author has found cold water the best and most soothing application to the joints affected with acute rheumatism.—*Annales de Thérapeutique*, Juillet 1848.

**WARTS OF THE VULVA.**—By Professor Meigs.—It sometimes happens that the vulva is covered with a luxuriant growth of warts. "They are, in certain cases, so abundant as to dispart the labia, filling up the entire sulcus, and rising as a great convex mass of pale cauliflower-looking tumour, quite convex above the general level. Upon separating further the labia, so as to open the sinus pudoris, they are perceived to be small warty excrescences from the mucous body of the mucous membrane, and differ not from the warts on children's fingers except by their greater softness, which depends on their being always bathed with the sort of milky humour of the labial membrane. They often bleed when touched; and, when pinched off with the finger nails, the broken surface trickles with blood, which soon ceases to flow. I have found that, when the entire labium, right and left, has been quite incrustated with warts as above, I could with the probe separate them anywhere; for they are distinct from, though in lateral contact with, one another. You will readily include a great number of them in a ligature, which, being tightly tied, they drop off after some hours. The readiest way to remove them is to snip them off, several at a time, with scissors curved on the flat. This being

done, and the surface being lightly touched with the nitrate of silver pencil, or with a solution of sulphate of copper, the mucous tissue is not very likely to reproduce them."—*Females and their Diseases*.—Philadelphia, 1848.

DISEASES OF CHILDREN.—NEVUS TREATED BY SETON.—Dr. Bellingham reports two cases in which the plan of treatment by seton, as recommended by Dr. Marshall Hall, was perfectly successful. The first case, which we give below, sufficiently points out the advantages of the method:—

Mary Magrath, aged eleven months, was admitted with nevi on the face, one occupying the root of the nose and inner angle of the left eye, about the size of the section of a walnut, prominent and purple, and a smaller one was seated on the forehead. A needle, armed with silk, was passed through the base in four different places, and the threads loosely tied, so as to allow of motion. Two more threads were subsequently passed, previously dipped in a solution of nitrate of silver, and in less than two months the tumour had disappeared.—*Dublin Medical Press*, August 16.

SCARLATINA.—A series of papers on this subject have appeared in the *Med. Times* of last month, by Dr. Tripe, illustrated by cases. The treatment adopted appears to be very judicious, and regulated according to circumstances, but without eliciting anything particularly new on the subject; nevertheless they are deserving of careful perusal.

CASE OF MEDULLARY SARCOMA, WITH AN ILLUSTRATION.—By B. Blaine, Esq., M.R.C.S.L., Tenterden.—George Reynolds, aged nine months, the subject of this most formidable disease, was born of healthy parents. His mother states that he was smaller at birth than her other children, but was plump, and apparently healthy. When two months old she observed a small, hard, colourless tumour, "like a pea under the skin," at the upper and inner part of the right thigh. Six weeks afterwards a second tumour made its appearance in the right groin; both rapidly enlarged and coalesced.

Two months ago the disease showed itself in the right shoulder; nevertheless, the child continued to thrive remarkably well, giving only occasional indications of pain.

The tumour—which now extends completely across the pelvis, involving the right thigh and buttock, the scrotum, and penis—is tense, elastic, and apparently lobulated. Numerous blood-vessels ramify on its surface.

The orifice of the urethra is marked by a slight puckering of the integument, and this is surrounded by faint indications of the transverse rugæ of the scrotum. The urine is voided with excessive pain and difficulty, from the great distortion of the canal.

The irritation arising from dentition seems, during the last fortnight, to have imparted an extraordinary activity to the morbid process, as the tumour has rapidly enlarged during that time; and a cachectic state of the general system has also supervened, so that the little patient is threatened with speedy dissolution. The appearance, as represented in the illustration given of this remarkable case, is truly malignant, and of great size.—*Medical Times*.

THE RECTUM IN NEW-BORN INFANTS.—M. Huguier remarks that the rectum in a full-grown fœtus is not found on the left, but on the right side, especially in females. In these the gut corresponds with the right side of the womb, while at a later period it will be found on the left. It is important to

bear this in mind in operating for artificial anus, as it is sometimes difficult to pass the canula.

**HYDROCEPHALOUS ACUTE.**—A case is related by Dr. Copeman, of Norwich, in the *Prov. Med. and Surg. Journal*. The treatment:—1st, by a purge of hydr. creta, and scammony, cold to the head, hip bath, small doses of calomel and antimony, with a mixture of acet. of ammon. Growing worse, blisters, bark and ammonia, with aperients. Progressing worse; Lugol's solution of iodine was given, five drops every four hours (æt. 6.), from which time improvements began: the dose was increased. The child ultimately recovered.

**CROUP.**—Mr. Norman, at the Bath and Bristol Association, read an account of a case of croup in the adult, fatal in less than twenty-four hours, illustrated by two coloured wax models. He narrated several cases of similar kind that he had seen at various times.

Dr. Blackmore, five years ago, had suffered from the same complaint, and strongly urged on the meeting the importance of treating such cases by continued doses of oxymuriate of mercury.

Dr. W. Budd drew attention to cases of similar disease, closely analogous to erysipelas, presenting after death but slight plastic exudation, though the membrane was deeply injected and swollen. That these cases were erysipelatos in character was shewn by erysipelas supervening on the operation for tracheotomy, or by its spreading upwards to the outer surface of the face, as well as by erysipelas being very prevalent at the same time. Dr. G. Budd had read an account of several such cases before the Medico-Chirurgical Society, when Mr. Busk, of the *Dreadnought*, recommended the free scarification of the velum palati and tonsils, thereby giving exit to an immense flow of blood and serous fluid, with immediate relief to the patient.

Dr. Green observed, that though some of these cases might be connected with erysipelas, yet the point of most practical importance was, not to defer the operation of tracheotomy too long. When once œdema came on, mercury was the only trust-worthy remedy, antimony being most useful in the early stages. In the cases he referred to, the difficulty was in inspiration, which was characterised by short strenuous inspirations, accompanied by great anxiety to expire the vitiated air.

Mr. Hunt briefly related a case of the same character, where, after copious bleedings from the arm, leeches to the larynx, and five grain doses of calomel every two hours, it was intended to have performed tracheotomy. On the calomel producing its specific effects, the urgent symptoms immediately subsided, and the patient recovered.

**CEREBRAL AFFECTIONS.**—Few diseases which engage the attention of the physician, are more interesting in their nature, or important in their results, than the cerebral affections of infancy and childhood; whether we regard the tender age and helpless condition of the sufferer, the extreme anxiety which is felt by parents, when those so dear are afflicted, by what must ever be considered as dangerous maladies, or the mighty interests that are at stake,—the inestimable blessing of sound reason and its enjoyment so frequently depending upon the issue.

In another point of view also, they are a class of diseases claiming the closest attention of the physician; both from the frequency of their occurrence,

and in so far as his own reputation is concerned. Diagnosis, in these cases, is frequently very difficult, and is often still further obscured by the impossibility of obtaining any information to assist us from the little patients themselves. Hence the necessity for great tact and practical familiarity with all the phases under which the attack may be made, to facilitate the recognition of their nature, at an early period, when alone our art may be made available effectually to combat with them. Some of these affections are so very acute in their progress, and disorganisation of the delicate structures engaged, takes place so rapidly, that unless the way is clearly seen, and the course of treatment promptly adopted and vigorously carried out, our very best efforts are unavailing. Hesitation and uncertainty may occasion the loss of a patient—mistakes made may be fatal, and especially in the cases of children, are never forgotten.

Notwithstanding all that has been written upon the subject, and the clear manner in which the differential diagnosis has been attempted to be established, the practical physician will admit the great difficulty he sometimes experiences in pronouncing upon the nature of the case. We are frequently not called in, until the time has passed when the early observation of symptoms might have afforded greater facilities for drawing inferences. Unfortunately it happens, often too, that cerebral affections are so insidious in their approach, so masked by some prominent, remote, sympathetic affection, or so little characterised by any very decided pathognomonic symptoms, that they are overlooked by the friends in the early stages, and the doctor is called in, only to be able to confirm the apprehension that has been accidentally excited, for the safety of the head. The child may have been astray for some time, and have lost flesh,—but it was only teething, and has often been so before. True it has had vomiting, but then the food disagreed; or if it be an infant suckling, the mother has been anxious, and has lost her rest—enough to cause that. There is a ready and familiar way to account for every symptom, but the lurking disease is overlooked, or not suspected. The supervention of convulsions, screaming, severe head-ache, or perhaps sudden coma, arouses anxiety, and directs attention to the head, and then too often, irremediable mischief has been done.

Medical literature has furnished many treatises upon the affections of the head in infancy. Some are voluminous, embracing every disease; some are valuable monographs; many are inaccessible to the ordinary student from their scarcity, and some from being published in a language with which he is not acquainted. My endeavour, in the following pages, will not be to furnish a perfect encyclopædic history of those diseases, but rather a concise account of those occurring most frequently, with extracts from the most valuable works to which I have had access, introducing such practical observations, especially upon diagnosis and treatment, as a considerable experience in, and familiarity with, the diseases of children, enable me to offer. As the practical utility of the treatise is chiefly aimed at, I shall excuse myself for not following strictly any particular author's classification, but shall adopt in each instance, that which seems most likely to convey the clearest views of the particular disease under consideration, being truest to nature, and appearing best marked, by some strong, easily recognised, and generally occurring characteristic.

From the very early medical history of cerebral affections in infancy and childhood, we do not gather much information that is valuable. There existed, even until the middle of the last century, great obscurity as to the diagnosis, complete ignorance of the pathology, and doubt and despondence about the treatment. Until the work of Dr. Whytt was published in Edinburgh, the matter does not seem to have received really scientific attention, but his views on the subject, possessing considerable novelty, aroused other authors, and we find Drs. Fothergill, Watson, Dobson, &c., soon in the field of publication. Afterwards, and at about the same period, 1791, Drs. Rush, of Philadelphia, and Quin, of Dublin, devoted attention to this subject, and, by propounding new and more correct views of the nature of hydrocephalus, added much to the knowledge that was possessed. These authors were followed by the late Dr. Cheyne, of Dublin, who treated of the same disease, in two very able essays, which still form a text-book, and retain a deservedly high character.

Among our continental brethren, also, much has been done. Gölis's treatise, so well known, is very complete and valuable, and from the works of M.M. Billiet, Guersent, &c., we derive much useful information, pathological as well as practical.

To modern English authors, also, this department of practical medicine is very much indebted, and from the lectures of Drs. West and Willshire, and the publications of Dr. Marshall Hall, I have derived much information. To several others also, from whom I have received hints, or from whom I may have quoted passages, I beg to make my acknowledgments.

Clearness of style, distinctness of expression, and a facility of conveying to the reader the author's views upon a subject, are amongst the recommendations in such an essay as this; and being so convinced, I have aimed at rendering this treatise useful, and easily understood and remembered, rather than very apparently learned or laboured, by numerous quotations, or the use of a greater number of new or technical terms, than is necessary for the proper description of each disease.—*V. Duke, M.D., Prov. Med. and Surg. Trans.*

**CONGESTION OF THE BRAIN.**—We shall commence the account of cerebral affections in infancy by noticing the occurrence of congestion of the brain, which sometimes is present at, or occurs immediately after, birth. This is rather a rare occurrence, and we more frequently meet with the affection at a later period of life. It arises from several causes,—as a neglected state of the bowels, exposure to cold, an impediment to the return of blood from the head, &c. I have known it to occur and prove fatal in twenty-four hours, from sudden passion in a nurse; and there are strong grounds for believing that the free use of spirituous and fermented liquors, by suckling mothers, has frequently induced it. It is liable to occur also during the course of the exanthemata and hooping-cough; the latter, in my experience, having been a most fruitful source of it.

“When suffering from congestion, the child will be stupid and heavy, the head looking full, and being perhaps hotter than usual, the veins distended and dark coloured, the countenance livid, and the pulse slow, or irregular; the pupils are usually dilated, and the eyes looking vacant; a permanently elevated and convex condition of the fontanelles, leaves no doubt of its

existence." (Evanson and Maunsell.) If unrelieved, these symptoms may be followed by effusion, and death take place in twenty-four hours.

The treatment must consist in removing the cause, if we have control over it, and next in relieving the symptoms. Cold applications to the head, with perhaps the general warm bath, and freely acting on the bowels, will generally be sufficient; but if the lividity of countenance, or the nature of the breathing, denote danger, we must apply leeches. Blisters will also be found useful, and both these remedies are recommended to be applied to the extremities, rather than the head. I should select the nape of the neck as best suited for blistering. Tonics and stimulants may be necessary to prevent a recurrence of the symptoms of congestion.—*V. Duke, M.D., Prov. Med. & Surg. Trans.*

**IRRITATION, OR ERETHISM OF THE BRAIN.**—Morbid irritation, or erethism of the brain, is also sometimes met with amongst infants, especially in large cities. It is characterised by an increased irritability of the sensorium, and susceptibility to impressions; noise and light are equally disagreeable, and the child is uneasy and fretful. The eyelids are generally closed, and the flexion of the thumb on the palm of the hand, so well-known to nurses, is constantly observed. The child is generally very watchful, and gets little sleep. There is not any complaint of pain in the head, nor is there increased frequency of pulse, or heat of skin.

This affection is generally attendant upon dentition, in delicate children, and may arise in them from every debilitating cause. I have seen it occur after remittent fever, long protracted; and also after diarrhoea. If this state of morbid irritation should exist long, hydrocephalus might be induced. Congestion of the brain, which we have already spoken of, and the hydronephaloid disease, to be hereafter described, have many symptoms in common with erethism. The watchfulness and extreme sensibility in this case will contrast with the stupor and tendency to coma in the former. Our principal efforts must be directed to allay irritability and procure sleep; we must also be careful to support the strength, by light nourishment, but stimulants, as wine, must be avoided. The bowels must be evacuated by enemata and mild aperients; cold also should be assiduously applied to the head, and warm stupes to the feet; a very nice method of applying the latter is by means of flannel wrung out of hot water, rolled round the legs and feet, this again being wrapped up in a warm, dry piece of flannel, or small blanket. I have frequently known this procure sleep, in many of the affections of childhood, and it has the recommendation of disturbing the child very little, and is applicable in cases where the fatigue of a general warm bath would be too great. Nothing will sooner relieve our patient and assist the means we prescribe than change of air. It really acts sometimes magically, as all who have seen much of the diseases of children can vouch. Sometimes it may be necessary to have recourse to the use of opium, which, if cautiously and prudently administered, will prove a useful assistant in breaking the habit of wakefulness and procuring sleep.—*V. Duke, M.D., Prov. Med. and Surg. Trans.*

**THE HYDROCEPHALOID DISEASE.**—The hydronephaloid disease was first particularly described by Dr. Marshall Hall. "This affection," he says, in his admirable essay on the subject, "may be divided into two stages; the first that of irritability, the second that of torpor. In the former, there appears to be a feeble attempt at reaction; in the latter, the powers appear to be

more prostrate. These two stages resemble, in many of their symptoms, the first and second stages of hydrocephalus respectively."

It is very necessary to be thoroughly acquainted with the circumstances under which this disease is likely to occur; for the symptoms are not peculiar to it, but may occur in other affections requiring a very different treatment; to wit, in hydrocephalus and in morbid irritability of the brain. If we trace the history of the case, we shall generally find that there has been some considerable evacuation, either loss of blood in the cure of some other affection; or long existing diarrhæa. The infant is at first irritable and peevish; he starts upon being touched, and is over-sensitive. There is sighing and moaning during sleep, and sometimes screaming. Here are symptoms, some of which are present in the erethism of the brain, and some in hydrocephalus; and it will require the closest attention to the history of the case, to enable us to discriminate between them. As the disease advances, the exhaustion is more apparent; the countenance becomes pale, and the cheeks cool; the eyelids are half closed, the eyes fixed, and unattracted by any object placed before them; the pupils unmoved by light; vomiting is sometimes present, and the bowels are rather free than constipated, though the evacuations are unhealthy. You must meet these symptoms by supporting the system, administering gentle stimulants, and such moderate doses of opium as may allay irritability, or check diarrhæa, if present. Dover's powder is a very manageable form in which to use this medicine, and the starch enema, with opium, will be generally effectual when diarrhæa exists. If vomiting be present, we must try to allay it by administering small quantities of nourishment, as chicken-broth; or if the exhaustion be very great, by stimulants, as wine, or even brandy. A small blister for an hour, over the stomach, will often materially assist in checking vomiting. If there be great coldness of the surface, we may use the warm bath for a short time; and the water may be made stimulating, by the addition of some mustard. After the symptoms have been subdued, tonics must be administered to prevent relapse, and, as before mentioned, change of air is most desirable. Should we, by oversight or mistake of its real character, treat this case by continued depletion, our patient would assuredly sink rapidly, and die comatose, or convulsed.

The application of cold to the head, so useful in most of the cerebral affections of infancy, would here be badly borne.

Should the symptoms not be relieved, the child may die seemingly exhausted, and examination would very likely show considerable serous effusion in the ventricles; but then this would have been more of a passive nature, than the result of acute inflammation.

Symptoms of exhaustion are frequently seen in children who are imperfectly nourished, either on account of deficient supply, or the bad quality of the nurse's milk. These matters must be closely inquired into by the physician, and his treatment regulated accordingly. The change of a nurse, under such circumstances, is imperatively called for.

Great attention should also be paid to the nourishment a child receives after being weaned, especially if that process has been suddenly carried into effect, from any necessary cause. The assimilating powers of the digestive apparatus are weak, and disease of the brain may result from deficient nutriment. — *J. Duke, M.D., Prov. Med. and Surg. Trans.*

## RETROSPECT FOR NOVEMBER, 1848.

**PRACTICAL LABOUR.—PROLAPSE OF THE CORD.**—Mr. I. Brown related a case of this rare phenomenon. The subject of it was thirty years of age, and the mother of three children. She was threatened with abortion, and after two or three attacks of hemorrhage, attended with expulsive pains, in one of these the cord was found to be presenting in a loop. The following day a severe pain came on, and the cord burst. This was followed by profuse hemorrhage, and the expulsion of the fœtus. The placenta was found to be nearly bloodless. In consequence of the severe pain experienced in removing the placenta, the patient was placed under the influence of chloroform. It was quite successful, and she is doing well.—*Med. Gaz.*

**PLACENTA PRÆVIA.**—Mr. Dunn relates a case of placenta prævia in which hemorrhage prevailed for some time, but was arrested by plugging the vagina with a sponge dipped in vinegar. The child was delivered by turning. It was to the condition of the placenta, which he now exhibited, that Mr. Dunn wished to direct the attention of the Society. The contrast between the *detached* and the *undetached* portions was most striking. While the latter was blanched, and more pale than natural, the former would be seen to be gorged with blood. The source of the hemorrhage, in such cases, was the great point of practical importance. In reference to this point he brought the placenta for inspection.—*Westminster Med. Society Med. Gaz.*

**ON A CASE OF RUPTURE OF THE UTERUS.** By W. H. Borham, Esq.—I was called to attend Ann W——, aged thirty-five, in the Forest of Dean. The liquor amnii escaped about half an hour before I arrived. The os uteri was very slightly dilated; and after staying with her about two hours, and not finding matters progressing, I proposed leaving her. She said she was very timid, and felt sensations different from those in previous labours; I accordingly remained all night. In the morning, finding things *status quo*, and as I lived but a short distance off, I went home, leaving word that she should send when she found her pains increase. On the same day, about six p.m., I received a summons to attend immediately. Upon examination, I found the os uteri dilated to about the size of a half-crown, and I felt a substance presenting which gave to my fingers the sensation of pressing against a bladder filled with water tightly squeezed: still I fancied I felt the bones of the child's head.

After remaining two hours, the os uteri dilated to about the size of a five-shilling piece, and felt elastic—her pains now became very violent. She had been in hard labour for about ten hours. Little progress having been made, and not being quite satisfied with the presenting part, I sent for Mr. Batten, of Coleford.

On arriving, he made an examination, and we felt assured that the unnatural feel was from the fœtus having a hydrocephaloid head. The woman's pains now became excessively violent, and we were about to use the perforator, when the patient requested that she might be allowed to stand up, in the hope that it might facilitate her delivery, without having recourse to the instruments, (*and she was allowed.*)



She got up with comparative ease, and shortly after, whilst standing, supported by two attendants, she complained of a most singular sensation, accompanied with a pain just below the heart. This being followed by restlessness, and faintness with vomiting, we immediately placed her in bed, and, upon examination, found hemorrhage; and, to our astonishment, the head was not to be felt—it had entirely receded, and there was a sudden loss of labour-pains.

There was now excruciating pain, flagging pulse, cold cadaverous sweats, fainting sickness, vomiting, hemorrhage, and the retiring of the presenting part determined our opinion. The child was found amongst the intestines, liver, spleen, &c., and a lateral rent of the uterus from side to side; the legs were brought down, and by the time the child was born all but the head, the patient died—about twenty minutes after she had got out of bed. We found it impossible to extract the head, even after the death of the mother, without using the perforator. The patient did not complain of any sudden snap, or giving way of the womb, in this case. The child had an enormous head, about twice the size it should have been.

The patient complained, all the time she was pregnant, of experiencing feelings very different to those she felt on former occasions of pregnancy. This was her seventh child, and the second female; the other female child was born with a deformed head, and died. The boys were all naturally formed.

Now, in this case, was it not possible that the enormous size of the head might have attenuated unusually the walls of the uterus during her pregnant state, and thus have rendered the uterus incapable of bearing the exercise of that natural force which was required to expel the fetus?

[We think it quite as possible that the *ten hours hard labour subsequent to twelve or sixteen hours of usual preparatory pains* shewed the uterus fully capable of its duty. In our opinion the length of time in *hard labour*, and the want of timely and efficient interference, had more to do with the rupture than any incapability of the uterus itself.—ED.]

DISEASES OF WOMEN.—MALIGNANT DISEASE OF BOTH OVARIES.—A female, aged forty, had suffered for the last four months from constant vomiting whenever she took food of any description except diluents. She complained also of great pain in the region of the epigastrium and abdomen, which prevented her from assuming the recumbent position. Latterly ascites came on, and she rapidly wasted away, and died six months after her illness first commenced.

On post-mortem examination, the abdomen was found quite full of fluid. On discharging this, the great omentum was discovered to be changed into a mass of disease, composed of cancerous tumours about the size of a nut. The interior of the stomach was quite healthy. The peritoneum covering the diaphragm and the large intestines was studded with small cancerous tumours. The uterus was perfectly healthy, and of the normal size; but in place of the ovaries there was on each side a rounded mass about the size of an orange, consisting of the same structure as the tumours observed in the omentum.

The case was interesting, inasmuch as the constant vomiting immediately after eating had led to the diagnosis of extensive disease of the cardiac orifice of the stomach.—*London Pathol. Society Med. Gazette.*

**QUININE IN PUERPERAL FEVER.**—M. Ludet, in the *L'Union Med.*, states, that in three different epidemics at Rouen, quinine given in doses of 5 grains three times a day, and commenced shortly after delivery, appeared to exert a protective power. On the third day the dose was diminished, and discontinued on the sixth day. In epidemics, when the disease commences immediately after delivery, the medicine should be given without delay on the commencement of labour.

**TREATMENT OF UTERO-VAGINAL LEUCORRHOEA.**—The treatment of this variety of leucorrhœa must depend upon the form of inflammation which has caused it, whether it be active or passive; you must therefore make the same distinction as in simple vaginal leucorrhœa; and although the general principles are the same, yet they must be *adapted and modified* in each particular case in proportion to the degree and extent of the inflammatory symptoms. When they are severe, antiphlogistic means must be instituted, and continued until they have been subdued. The present relief afforded by this plan will encourage both the medical man and his patient to persevere. Eight, ten, or twelve ounces of blood should be removed, by applying cupping glasses to the lower part of the spinal column, or rather just over the sacrum, and the warm bath used immediately afterwards. Further, local depletion may be effected by leeching the vagina. These remedies are to be repeated at longer or shorter intervals, according to the intensity of symptoms, the relief experienced, and the capability of the constitution to bear them; ever remembering that excessive depletion is never required in the treatment of inflammation of mucous surfaces. Bear in mind, also, that the symptoms ushering in the disease are, in many instances, so slight as to appear too insignificant to require medical relief; and the active stage of the disease has passed away, and it has assumed a chronic form before you have an opportunity of treating it, the pain in the back, discharge, &c., being considered as "nothing but a weakness." The bowels should be kept soluble, and determination to the skin solicited, by the employment of diaphoretics. The diet should be sparing, especially if there be a feverish tendency, although, in many cases, the constitutional powers require to be supported, even when it may be necessary to deplete locally. A constantly recumbent position is essential, and all sources of irritation, general as well as local, sedulously avoided. When the disease assumes a less active form, antiphlogistic remedies to the same extent are not required; cupping, probably, may be dispensed with, but repeated leeching within the vulva must be substituted. After clearing the bowels by the use of an alkaline laxative, recourse may be had to a mild tonic. The happiest effects sometimes follow the continued use of Decoct. sarzæ comp., with an occasional Plummer's pill. You may follow a more generous diet than in the acute form, but take care that it be not over stimulating.

If the disease be the result of general or local debility, the same plan of treatment should be employed as where the vagina alone is affected. In this latter class of cases, should conception take place, the female will be very likely to miscarry, and should the expulsion of the ovum be attended with the loss of much blood, exhaustion to a fearful extent may ensue.

I must not conclude without reminding you of a case lately occupying bed

No. 28, in Mary's Ward, in which all the inflammatory symptoms were suddenly and permanently relieved by the loss of a large quantity of blood. This was not a case of simple utero-vaginal leucorrhœa; the substance of the uterus was to a certain extent implicated. I ordered this patient to be cupped over the sacrum. One of the lancets entered a small artery, which bled freely for some hours, and the bleeding was not arrested until the dresser passed a ligature through the integuments, and secured the vessel. Great exhaustion followed, but there was no return of pain. The function of menstruation, which before was attended with extreme suffering, was afterwards performed regularly and without pain.—*Dr. Waller, Med. Times.*

**SORE NIPPLES TREATED BY SOLUTION OF GUN COTTON.**—The following observations are quoted from Prof. Simpson's paper on gun cotton solution:—It has been proposed to use the ethereal solution of gun cotton for other purposes than the dressing and union of wounds—for example, as a substitute for the starch bandage in fractures; as an application and dressing to ulcers, &c. In abrasions, and slight injuries of the skin about the fingers, it forms an excellent and adhesive dressing. There is one extremely painful and unmanageable form of ulcer in which I applied it eight or ten days ago, at the Maternity Hospital, with perfect success. I allude to fissures at the base of the nipple. Most practitioners know well the agony that some mothers undergo in consequence of this apparently slight disease; the ulcer or fissure being renewed and torn open with each application of the child. In two such cases I united the edges of the fissures, and covered them over with the solution of gun-cotton, making the layer pretty strong. It acted successfully by maintaining the edges so firmly together that they were not again re-opened by the infant: the gun-cotton dressing was not, like other dressings, affected by the moisture of the child's mouth; and as a dressing, and at the same, by securing rest to the part, it allowed complete adhesion and cicatrization speedily to take place. I have applied it also repeatedly to ulcers of the cervix uteri and over various cutaneous eruptions. Its application relieves at once the smarting of slight burns.

**DISEASES OF CHILDREN.—DEATH FROM INOCULATION.—MANSLAUGHTER.**—Matthew Symes, baker and beer-house keeper, of Burstock, Dorset, has just been committed to Dorchester gaol to await his trial at the assizes for the offence of manslaughter. Symes had inoculated two of the children of John Hoare, a dairyman, though repeatedly admonished that he was acting illegally in inoculating children, which he appears to have been in the habit of doing. Both the children died, and it was proved on the inquest, by a medical man, that they had died from small pox, received through inoculation, and not naturally. The coroner, Mr. Cory, called the attention of the jury to the 3rd and 4th Victoria, cap. 29, which makes inoculation illegal, and a jury of eighteen respectable persons returned a verdict of "manslaughter" against Symes.

**ON THE ARTIFICIAL INFLATION OF THE LUNGS IN NEW-BORN CHILDREN, AND ON ATALECTASIS PULMONUM.**—Dr. Eulenberg adverts to the discrepancy of opinion as to whether the lungs of a still-born child can be so inflated as to swim in water. The affirmative has been maintained by Bohn, Lieberkühn, and Hunter; the negative by a greater number; and is the prevailing opinion.

The present author has repeated the experiments, and as a result, has found that the effect of inflation much depends upon the period at which it has been commenced. He states,—1. That the inflation is always easy if undertaken shortly after birth, before rigidity has taken place; the effect being complete in proportion to the force used. 2. Inflation is difficult after rigidity has commenced. Dr. Eulenberg then reviews the points of difference which are usually said to distinguish inflated lungs from those in which respiration has taken place.

**DESCRIPTION OF A SIMPLE TRUSS IN CONGENITAL HERNIA.**—Mr. Coates, after noticing the difficulty in maintaining a truss or bandage in position, in the case of infants, mentions a simple contrivance, from which he has experienced uniformly good results. It consists of a skein of Berlin wool, which is made to encircle the pelvis, one end passing through the other at a point corresponding with the inguinal; the end then passed through is carried between the thighs, and fastened to the cincture behind. This can be worn at all times, and replaced and cleaned with little trouble, and, moreover, is not likely to gull the tender skin of the little patient.—*Medical Gazette*, September 29th.

**CASE OF CONGENITAL ABSENCE OF THE GLOBES OF BOTH EYES.**—Dr. A. B. Williams, in the *Charleston Medical Journal*, says:—The subject labouring under this singular deformity was presented to his notice, a few months past, by her owner, Dr. Mazyck, at his plantation on the Santee river. She is about nine years of age, the last child of a black woman, who has reared a remarkably fine and healthy family, and presents in this relation an exception to that law of hereditary transmission which establishes resemblance between parent and offspring, and most evidently observed in the features of the countenance. At birth, the infant was seen by Dr. Mazyck, and in a few days after by Dr. James Moultrie, and these gentlemen give the following information in relation to the case at that early period. Nothing unnatural was observed in the appearance of the face, except the firm adhesion of both eye-lids on their respective sides, when the attempt was made for the first time to open them. As the child appeared to suffer slight pain, no violence was used; and at the end of a week or ten days there occurred a spontaneous separation for a few lines distance along the tarsal margins; very gentle force exercised with the fingers soon completed the rupture of the remaining adherent portion, and the result disclosed the absence of the globes above-mentioned. Ever since the period here alluded to, (about two weeks after birth,) the eye-lids have remained separated, and we may state from further recent examination, that these appendages, which are perfect in their formation, and furnished with puncta and eye-lashes, are lined as usual with a healthy conjunctiva; this membrane extending throughout the entire inner surface of the orbit, was reflected rather firmly over a more resistant tissue deeply situated (perhaps the rudiments of a sclerotic coat) although beneath this, no protrusion was visible, and a probe passed over its surface could detect no openings. The existence of the orbicular muscles is evident, as their contraction rather inverts than elevates the lids, from the want of that point or fulcrum which is afforded by the globes in their normal state. It seemed also clear, after an examination of several days, that in both cavities there existed the secretion

of a fluid resembling the tears, the lachrymal gland being in its normal position, and easily felt by slight pressure. The orbital margins are well developed below, but at their superior external portion appear somewhat deficient, giving to the superciliary ridges a slightly depressed form, and to the whole forehead a contracted character, often observed in persons deficient in intelligence. The girl, however, with the loss of the most important of the organs of sense, manifests a singular degree of intelligence in many others. Her disposition is cheerful; hearing is quite acute; and she possesses a remarkable power of distinguishing bodies by the touch, although not to that extent, as has been pretended, of forming ideas of colour in this manner.

MISCELLANEOUS INFORMATION.—IMAGINARY INFLUENCES ON THE CHILD IN UTERO.—Dr. Burdon, in the *Dublin Medical Press*, has an excellent paper on this subject. After touching in a most masterly style the variety of humbugs that have catered to the amusement and pandered to the ignorance of society in general, under the different titles of Miracles—Demonology—Witchcraft—Divining Rods—Metallic Tractors—Hydropathy—Homœopathy—Mesmerism, and other imaginary pets, he thus touches the question in connection with the mother on the child in utero:—

“In forgetfulness of this and common sense, and only noticing the fact that the mind of one individual cannot alter the body of another, it is asserted that the little being within the womb cannot be considered as a foreign body with respect to the mother, but rather (in consideration of its connections) as a part of herself. It is true that there is a uniting link between them, still the union is not great. The child itself does not adhere in any one point to the mother; it is surrounded by and completely enclosed within a membrane containing water; a cord of two or three feet in length proceeds from its body, and is inserted into the placenta, which mass is fixed to the womb. Such is the simple and limited union between the mother and child. Latterly, as I have already mentioned, Sir Everard Home has (by the assistance of glasses) seen some nervous filaments over the placenta and along the cord. From this he and some others assume that the brain of the child is connected with the brain of the mother, and consequently that whatever feeling or idea passes through the one must be felt or perceived by the other. This is arriving at a conclusion unwarranted by facts. Sir Everard Home saw some nerves on the appendages of the fetus, but he has not shown that these were elongations of, or branches from, those of the maternal system. It is absolutely necessary for the nourishment, growth, and functions of every living animal substance, that it should be supplied with nerves of nutrition and motion, for without the former it could not exist, and without the latter it could not act. It need not therefore be considered as something extraordinary that nerves should be found on the placenta and funis, and as such nerves of the child have not been traced to the brain of the mother, no argument can be based with any degree of correctness on the mere perception of them. From analogy (in the absence of facts for our guidance), we may justly infer that there is no connection between the brain of mother and child, and from reasoning, that is not necessary. It is not required for the preservation of the child's life, nor for the augmentation of its bulk. Existence and capacity of increasing are all that it needs in its fetal condition. The human embryo, while enclosed within



the womb, has wants no greater than those of inferior animals. They are supplied in a manner somewhat different, but the result to the individual is precisely similar ; for as the human embryo has not an independent life like that of the spawn of the fish, nor is it supplied with nutriment like the chick, it is obliged to remain in the body of the parent in order to live, and from whom it draws its nourishment as a plant from the ground. The precise manner by which its blood is oxygenated, and the nutritious particles are conveyed into its body, is still among the physiologists an unsettled point ; but I have no difficulty in supposing it very probable that by endosmose and exosmose the oxygenated nutritious arterial blood is directly transferred through the intervening membranes into the placenta and its veins, and the adulterated carbonized blood from the placental arteries into the womb. If for a moment, for the sake of argument, it were granted that the conjecture of Malebranche as to the two brains being connected by sentient nerves, is found to be correct from the anatomical evidence of Sir Everard Home, and also that the same blood circulates through the bodies of both mother and child ; still these do not prove that sensations are experienced simultaneously in both. Without entering into the question of innate ideas, or the possibility of such, as are required by long experience, and corrected by the frequent use of the senses, being transferable to a brain not completely formed, soft, weak, and dormant, I may say no possible good that can be conceived could accrue to the child from subjecting it to impressions ; its sensations at the utmost must consist of the lowest grade of animal feelings alone, for none surely suppose that it can have such as are derived from the contemplation of nature, or the more complicated ones, the result of which is hope. I shall not proceed further along this path, for it would lead me too far into the sublime yet somewhat obscure regions of metaphysics ; besides, we have facts sufficiently strong to prove (though it be a negative) that there is no such transmission of feeling between two brains, no matter how situated with respect to each other, even though nerves proceeding from them may join ; for if the mother can, without willing it, participate her feelings with her offspring, the child should, by the same principle, convey its sensations to the mother, but this is not found to be the case. The child is sometimes very annoyingly restless in its abode ; it must then have a desire for change of position, or at least some nervous action must exist within its brain producing these movements. The woman should then also (if the above hypothesis be true) imitate these actions of the child, and throw about her limbs. It might be said, perhaps, that her stronger will overpowers and prevents the nerves of motion from producing the contractions and relaxations of the muscles ; she should then at least have a strong inclination, though controlled, to sudden movements, but we hear of no such feeling. If she have this power over her own muscles, should it not also extend to the child, and quiet it also, but it still moves ; besides, the woman has no power to subjugate the child while she sleeps : thus it is certain that the feelings and desires between the mother and child do not exist. The nerves of nutrition also act separately in the two bodies ; the same blood may circulate in the vessels of the mother and child ; but there are two distinct systems, each extracting and animalizing the chyle from it for the use of its own body independently of the other. This

admits of ready proof. The unhealthy woman with tuberculated lungs, though daily emaciating and getting weaker during her gestation, nevertheless produces a plump healthy child. A still stronger proof is exhibited in the abnormal twin births, that although the nerves and vessels may pass in and out of the bodies of two individuals, yet no uniformity of feeling is produced between them. The Siamese youths had both nerves and vessels passing through the band which united them, yet they had separate wills and desires. A closer union existed between Helen and Judith, for their *aortæ* were joined, and a part of the pelvis was common in both, and these girls had separate wills. In every body two or three kinds of nerves are found, enclosed in the same sheath, yet each nerve performs its functions without interfering with that of its companion. Therefore even were I to see two distinct brains united, as is the case in the Imops of St. Hilaire, still I should have no doubt that the nerves sent out of each brain, though they may enclose themselves within the same sheath, would each return the information to that brain from which it arose, and never to the other.

It was observed that when the leg which was on Beta's side was touched, the impression was felt only by Beta; and when the other was touched, Christiana only felt the touch. There is no proof, then, that the nerves of the mother extend to the brain of the child, and I think I have satisfactorily proved that even if any supposable connexion did exist between these two beings, still it could not produce simultaneous impressions in both. A woman cannot by any exertion of her mind place a mole on her face, or sweep off a pimple. Can a leopard change his spots, or the Ethiop his skin? How can she, then, be supposed to have that power over the body of her offspring which the gardener has over his trees, of engrafting a member or lopping off a limb. There is an absurdity in the very thought. No explanation therefore can be given of this phenomenon of the imagination under discussion founded on nervous interlacings. The only other mode that can be resorted to must consist in the mesmeric-like influence by which the mind of one can act on the mental and corporeal part of another being. It might be urged that facts are before us, and cannot be set aside. I make no attempt to pass them over, but facts are one thing, and their elucidation another; the latter may be correct, or far from being true, and on that account should be always carefully examined before acquiesced in. I shall therefore take a view of two or three of those effects produced (as I alleged) by the impression made on a pregnant woman's mind.

The cleft, single or double, occasionally seen in the upper lip of new-born children, is said to be caused by the mother being startled by a hare suddenly jumping up in her path. Why should such an emotion split the upper lip? The hare invariably runs from the woman; consequently she only sees its hind legs and long pointed ears. If the child is to be altered by this sight, the change should take place in its legs and ears, and not in its upper lip. One of our professors informed me on the authority of his uncle, that at one time a man with red eyes placed himself daily on Carlisle Bridge in Dublin, to ask alms. During his stay so many children were born with red eyes that the authorities were requested to interfere, and have him removed. This was done, and soon after the red-eyed children ceased to appear. If it were true

that a passing sight has such an effect, we should have nothing but monstrous shapes, for every woman during gestation must see some uncouth object. How many ladies are attended in America by African slaves, and although black faces and exaggerated features are constantly before them, yet we never hear of these ladies producing children like the Caffre race from this cause. The production of monstrosities among the lower animals in such as I have mentioned exhibit phenomena still more in unison with those of the mesmeric fluid; for the change of form in the issue of fish, and in that of the chick, demonstrates that it is not necessary for the young to be enclosed within the body of its parent in order to receive the stamp of the mind. But behold the mother holding her first-born to her breast in a fond embrace. The intensity of her love for her offspring seems to bind up her life in it. Surely if at any time the mind of one person could impress the mind of another with ideas passing through it, it must be in a case such as this. But while the heart of the mother may be breaking, and big drops are rolling over her cheeks, the child, even when drawing its nourishment from her body, instead of feeling her sad thoughts, is feeding in innocent contentment, and smiling up in her face. These examples, just cited, are only minor effects of the imagination; if there is hesitation in giving credence to them, what are we to think of the following:—A woman some months gone with child, witnessed a man broken upon the wheel. The child was born in due time with dislocated joints and broken limbs. A woman in the seventh month was bitten in the calf of the right leg by a dog. The wound consisted of three triangular depressions, by two of which the skin was merely slightly ruffled. A slight appearance of blood was perceptible on the third. The woman was at the moment of the accident alarmed, but neither then nor afterwards had any fears that her fetus would be affected by the occurrence. Ten weeks after, the woman bore a healthy child, which had three marks, corresponding in size and appearance to those caused by the dog's teeth in the mother's leg, and consisting, like those, of one larger and two smaller impressions. The two latter disappeared in five weeks; the larger one also is not so large or deep-coloured as it was at birth. This is related in the *Dublin Medical Press* of 9th November, 1842. The case of a woman which I have mentioned further back, is (if possible) still more extraordinary, she (being within three months of confinement, her child must have been fully formed), was present at the killing of a calf, and (here observe the power of the imagination) as the man drew the knife along the abdomen of the calf, and as the parietes separated before the sharp-edge, the parental imagination, with a synchronous action, and with an ideal knife, traced a similar line over the abdomen of the child, and palpable solid matter separated before the air-drawn instrument as readily and completely as before the real knife in the grasp of the butcher, and the woman felt the bowels of her child gush out of its body in the same manner and at the same moment as this occurred in the calf. Is it not wonderful that any thinking mind could for a single instant give credence to such nonsense. We may talk of the dark ages of superstition, but when went there by an age in which greater absurdities than these were believed? If it be asked—Is it not true that in some instances, the woman's mind having been impressed by an object, that on the birth of the child, a spot, bearing the resemblance to that very object,



has been found on its person? The answer must be in the affirmative; but it would be still more surprising if this did not *sometimes* occur; for during the long period of a woman's gestation, she must have looked upon a thousand objects, longed for many things, been shocked by the sight of numerous monstrosities, and been frequently startled by sudden appearances, and when the child is born with any unnatural formation, no doubt the mother will recollect the sight or feeling which caused it. Instead of first showing to the woman the spot on her child, and then expecting that she shall account for it, it would be much more philosophical if she were first to be asked whether she expected the child to have a mark, and if so, of what kind?

Dr. William Hunter examined this subject very patiently. In two thousand cases, immediately on delivery, and before examining the child, he inquired of the woman whether during her pregnancy she had a longing for, or had been frightened by, or her thoughts had dwelt on, anything particular for any length of time? He questioned her also as to her own ideas, as to whether she expected to find a mark on the child; if so, what kind, and why? Her answers were taken down in writing, and then he examined the child. He declares that, though he found many children marked, yet in not one instance of two thousand did the answers agree with the result. Many expected a mark where there was none; and others had not thought of the subject, and had got through their term unnoted by any incidence, when there was. Both the St. Hilaires have been very assiduous in collecting the particulars of every recorded abnormal birth; and assert, as I have mentioned further back, that Dr. Martin's case is the only authentic one in which the woman said before her confinement that her child should be born marked, and her feelings proved to be correct. Thus it is clear how the numbers of instances have been collected to form such a large mass of evidence as proof of the truth of our subject. But when closely examined, the magnitude of this mass fades into insignificance. Remove the ample folds of its gossip drapery, and the giant becomes a dwarf. As I have myself mentioned a number of cases of monstrosities, in which the impression was made on the mind of the mother prior to the birth of the child, do I mean to deny the existence of cause and effect? Certainly not. Let us examine what constitutes the logical term, cause and effect. It is this: A certain act being always, or nearly so, followed by the same consequences. If occasionally, the primary being present, the succeeding phenomenon does not appear, we readily admit that in such instances the usual cause is overpowered by some other cause. But be it remembered that the exceptions must be few in comparison with the rule. Is such the case with the subject before us? No such thing. Every woman, I repeat, during her gestation of nine months, must have had her attention arrested by some object, or must have been struck by some one idea more forcibly or more frequently than by others, and yet, comparatively speaking, there are but very few children born with a blemish. How, then, are these facts to be explained which have occurred? I answer, the agreement between them is merely accidental, and cannot be looked upon as cause and effect. Every person has been struck by meeting with a number of remarkable fortuitous coincidences. If these were collected and set in a notebook, they should far out-number those which take place between mother

and child. [Here follow a number of interesting cases of striking coincidences proving the truth of the author's views.]—*Dub. Med. Press.*

TO THE EDITOR OF THE BRITISH RECORD.

ON OVARIAN DISEASE.—My time has been lately so much engaged, that I have not been able to write to you respecting a few misstatements which I perceived in your *Record* of November last. Perhaps it would have been as well if you had reminded your readers that far from proposing any general plan of treatment to supersede any other plan, I had taken great pains to specify when and where each particular plan was preferable to another.

Stating my plan of treatment you say, "Dr. Tilt establishes the ulceration by first attacking the abdominal parietes with the slow caustic called Vienna paste, and then having exposed the ovarian mass, attacking it by the same means." This is indeed an absurd plan of treating ovarian dropsy. I have never employed it, and defy you to prove that I have even alluded to such a plan. What I proposed, was, by one or two applications of Vienna paste to the abdominal parietes, to diminish their cohesion in some particular spot, so as to allow the ovarian cyst to rupture, and empty itself *per stillicidium* of its contents.

Having thus briefly told you what is the nature of the plan of treatment I have found successful in several cases, I now come to your objections against the ulcerative opening of the cyst.

1st. With regard to the pain produced by the caustic, we know that it is proportioned to the extent of skin subjected to its cauterising influence. In my plan of treatment the extent of skin subjected to the caustic is so small, (about the size of half a crown at the most) that the pain is not considerable, not much more so than when an issue is established by *potassa fusæ*. I have often seen hepatic cysts treated in a somewhat similar way to that I propose for ovarian dropsy, and the caustic produced little pain. No doubt, as you justly remark, you "can settle this first part of the matter in a few seconds with the scalpel;" but you cannot so easily settle the risks by which your bold abdominal incisions may be followed. Indeed, in spite of the three successful results you have obtained from leaving a seton in the ovarian tumour, I must still consider that mode of treatment as one abandoned by the profession, after numerous trials in various countries; and at most it can only be looked upon as a *pis aller* when, from an error of diagnosis, the ovariectomist is unable to remove an ovarian tumour.

2nd. In answer to your objection, viz., the great difficulty of reducing a tumour, 60 or 70 lbs. in weight, by repeated applications of caustic, I have merely to mention that it never could have come into my mind to apply caustic in such cases. If ever you have time to refer to my paper in *Lancet* of 29th August, page 232, you will find that I distinctly state that "I consider this plan of treatment useful only when the cysts are *monolocular*, and without any considerable amount of solid deposit.

3rd. I come to what is really an objection, the difficulty of keeping the ulcerated part of the tumour opposite to the ulcerated portions of perforated abdominal walls. I myself have been careful in admitting the fact, but it is an exception to the rule, the caustic generally producing adhesion between the

abdominal and cystic folds of the peritoneum. If, on account of the possible absence of adhesion, my operation is in no case to be performed, well and good; but then you must not perform ovariectomy, for it may be followed by the sudden death of the patient.

14th. Your last objection, the possibility of the caustic being half dissolved, and spreading to other viscera, rests on an erroneous statement of my plan, and only proves that you have not found time to read my papers, for I distinctly recommend not to penetrate into the cyst by means of Vienna paste, but to weaken the parietes in their most distended part, and thus allow a small opening to result from the internal pressure of the contents on the weakest point of the containing cyst.

I think, also, that you make your readers believe that I totally condemn ovariectomy, whereas I have admitted that in a distinct set of cases ovariectomy is the best plan of treatment.

I am willing to admit that your numerous and engrossing occupations have not allowed you to read attentively my papers in the *Lancet*, but your high sense of honour will, I am sure, make you easily understand that I cannot allow your numerous readers to remain under the impression of misstatement, (no doubt involuntary on your part) but no less calculated to injure me on that account. I must therefore beg of you to insert this letter in the ensuing number of your valuable journal.

I remain, dear Sir,  
Faithfully yours,

Dec. 5th, 1848.

E. J. TILT.

42, Gloucester Road, Hyde Park.

## SECOND LETTER.

TO PROFESSOR SIMPSON, OF EDINBURGH, IN REPLY TO HIS LETTER TO DR. COLLINS, "ON THE DURATION OF LABOUR AS A CAUSE OF MORTALITY AND DANGER TO MOTHER AND INFANT."—BY ROBERT COLLINS, M.D., PRESIDENT OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND, AND LATE MASTER OF THE DUBLIN LYING-IN HOSPITAL, &c., &c., &c.

MY DEAR SIR,

I did not think it would be necessary to address you a second time, but your report of the Edinburgh Hospital, in the last number of the *Monthly Journal*, which did not reach Dublin until the middle of this month, renders it essential that I should do so.

In the letter you have addressed to me in the *Provincial, Medical, and Surgical Journal of England* for this month, in reply to my letter to you in the preceding number, you assert "I maintain that the protraction of labour is not a material cause of danger to the mother;" I positively deny ever having advanced any doctrine so monstrous, my observations having invariably been published in condemnation of rash and mischievously hasty measures; in support of which I endeavoured to prove, that the mortality from protracted

labour was "strikingly small," and that the mortality arises chiefly from other causes. Is it credible I should state that, in cases of extreme difficulty, there is little danger to the patient? It is, indeed, an infantile assertion on your part. I thought I had contradicted this statement, in terms sufficiently strong, in my last letter, to prevent its reiteration. I have referred to my Practical Treatise, in which I declare "there is no subject connected with the practice of midwifery so difficult to acquire a sound knowledge of, as the treatment of tedious and difficult labour: it is one of the most vital importance, and in the most marked manner distinguishes the experienced from the inexperienced practitioner." I also added, in my letter, that I thought it necessary to repeat the above declaration, as, from the opinions you expressed, your readers might hastily conclude that I had no knowledge whatever of the danger of protracted labour, whereas there was no subject that had caused me greater anxiety, or occupied my thoughts more.

In support of your assertion, quoted above, you have made out a theoretical table from my data, to PROVE, that when the patient is only a *few hours* in labour, and where there is *no difficulty* whatever in the delivery, the mortality is *eastly less* than in the opposite cases, in which, from *deformity* and other causes, the *utmost difficulty* is to be encountered to get the child through the pelvis. This table, indeed (as you say) needs not a word of comment. It must have surprised my medical brethren to have a *discovery* revealed, so important as that of 3,537 women delivered within *one hour*, without any difficulty; there were only eleven deaths, or one in 322; whereas, in 130 cases where the labour was above thirty-six hours, there were twenty-four deaths, or one in six. When, however, I add, that these 130 cases included all the really hazardous deliveries in the vast number of 15,850 women, many of whom were brought to the hospital, having been in labour three, four, and five days; and others, who, in consequence of great deformity, were obliged to be delivered by the crotchet, two, three, or four times; the discovery becomes a *mere innovation* on the ordinary mode of communicating our ideas. Laborious and difficult labours, caused by deformity of the pelvis, or great disproportion between the size of the pelvis and the child, if *frequently* met with, would, indeed, be productive of vast mortality. I have, however, clearly shown, that we had only ELEVEN DEATHS in labours protracted beyond forty-eight hours, out of 16,414 deliveries; so that a death from this cause does not occur even in *hospital practice*, more than *once* in 1492 cases—nay, more, I have satisfactorily proved, that in all the labours exceeding even *twenty-four hours*, there was only one death in 391; whereas, in the labours extending from ONE hour up to TWENTY, the deaths were in the proportion of ONE in 134. Thus, the mortality is more than *twelve* times the amount in labours *under* twenty hours, compared with the mortality in labours *above* forty-eight hours. A death from labour exceeding forty-eight hours is, indeed, a rare event—one in 1492; whereas, in labours under twenty hours, eleven or twelve deaths occur in that number. Therefore, although labour accompanied by malformation or disproportion, is extremely hazardous, the mortality from it is "strikingly small," notwithstanding the *imaginary proportional tables* you have given us; still more especially when we reflect, that the proportional mortality above given of *one death* in 1492 deliveries in all labours protracted beyond forty-eight

hours; is the result of *hospital practice*, where the most hazardous cases are accumulated; and that it is notorious, as will be proved in a subsequent part of this letter, that in the same number of cases *out of hospital*, the mortality would not be more than *one-half*. A death from labours exceeding forty-eight hours, should not occur in *private practice* more than once in 2884 deliveries; and thus we demonstrate, scarcely ever to be met with by most practitioners. I can truly state that I never had a death from protracted labour, and the invaluable results which I am about to publish of Dr. Joseph Clarke's practice will prove that he never met with such an occurrence in nearly fifty years' active practice; and, will you believe it? he only used the crotchet twelve times; the forceps once, and that without effecting the delivery, in 2847 labours. I shall not now state his mortality, further than to assure you, it was not one in forty-two.

The grand point for the practitioner seriously to consider is, *how the patient can be conducted with the greatest safety* through the most laborious labours, where there is extreme difficulty in the birth, owing to deformity in the brim of the pelvis, or other causes. You advocate the speedy delivery of the patient with the forceps, or by turning the child; but having so little practical experience of your own to submit in *proof* of the safety of this mode of proceeding, you struggle to prove, what no *physician ever doubted*, that protracted labour is *dangerous*!! You then give us the enlightening discovery made in your table, that where the labour is protracted beyond 36 hours, the *proportion* (!) of deaths is one in six.

As you have so little information to submit as to the results of delivery, by turning the child in deformity of the pelvis, let us examine the mortality resulting from the speedy mode of delivery by forceps, in the hands of some of the most experienced practitioners. These are cases which, in my humble opinion, should be attended with *trifling danger* to the patient, compared with those where the disproportion is so great as to make it *impracticable* to deliver with this instrument. Dr. Churchill has given an instructive table on this point, from which I select the following results:—

Dr. Granville .....	1 death in 5	Dr. Ritzer.....	1 death in 6½
Dr. Ramsbotham ...	1 „ 3½	Dr. Andree .....	1 „ 8
Dr. Gooch .....	1 „ 6	Dr. Küster .....	1 „ 4
Mad. Lachapelle.....	1 „ 5½	Dr. Adelman.....	1 „ 7
Dr. Boer .....	1 „ 9		

Here we have the mortality in some instances considerably greater, after hasty delivery with the forceps, where, as I assert, the difficulty we have to meet, is *not to be compared* to the danger to be encountered where we are compelled to deliver with the crotchet. Other practitioners given in Dr. Churchill's table, were much more successful with the forceps in *private practice*; but the high character of the individuals is well known to the profession, and the mortality sufficiently demonstrates what the results would be if this method of delivery was universally adopted. Amongst the French and German practitioners, where the forceps are in constant use, the average mortality amounts to 1 in 13½, and this including all the *ordinary* cases of labour where the delivery was effected by the forceps; whereas, in 134 cases in our hospital, which you have tabulated, all of which were *protracted* from 25 to 36 hours, the mortality was only 1 in 17.



In my friend Dr. Churchill's tables, he has arranged the results of *hospital practice* with *private practice*, and that of *out-patients* at their own homes. This renders any general average quite *valueless*, as no comparison as to *mortality* should ever be made between hospital patients, and patients out of hospital. The two are as opposite as the antipodes, and must be *scrupulously separated*, to form any useful comparison. I did not think you would have committed the *great error* in this respect throughout your letter to me, which I shall point out before I conclude.

The late Professor Hamilton states that "minute information on practical points is not to be derived from the general results in hospitals, and nothing can better illustrate this, than the fact that in 2,889 patients delivered in the Edinburgh hospital, there were *eight* crotchet cases; but in 4,328 *out-patients* there were only *seven*. The explanation," he adds, "is obvious—Deformed women are sent from various distant quarters into the hospital, in consequence of its being evident from their shape, that their labour may probably be difficult; on the other hand, the out-patients afford a fair specimen of the ordinary practice in the lower ranks. Crotchet cases, accordingly, occurred in the patients delivered in the hospital once in 361, and the same cases were met with in the out-patients only once in 618." In further illustration of the same argument, Professor Hamilton adds, that there "were in the hospital 38 forceps cases, being one in 76; while among the *out-patients* there were only 28 forceps cases, or one in 154." Your own reports also *amply* testify the increased mortality in *hospital patients*, compared with *out-patients*: thus you had seven deaths in 374 deliveries in the hospital, and only four in 1,101 *out-patients*.

I need do no more than refer to the cases reported in my practical Treatise, where it will at once be seen the *utterly hopeless* state in which many of the patients who died were admitted. I have stated, that in 106 cases where the labour was extremely severe, nearly *half* of the patients had been 1, 2, 3, 4, or more days in labour, before admission into hospital, and most of them grossly mismanaged.

The cases of rupture of the uterus, to which you referred in your letter, are a good example of the increased mortality which hospital reports must necessarily exhibit. Five of the patients were admitted after this very fatal occurrence had taken place.

That *protracted labour*, however, is not a chief cause of this accident, it is sufficient to state that more than *half* of those delivered in the hospital in which it occurred were not more than *twelve hours* in labour; in *three* cases only did the labour exceed 36 hours; and seven of the 34 were first pregnancies.

I should hope what I have stated will fully satisfy my professional brethren of the necessity of my protesting against the comparisons you *unfairly* make between my hospital results and the results of *private practice* and *out-patients*; and that in future you will strictly confine your statements to the former.

I requested you, in my last letter, when in future you referred to the mortality of the patients under my care in hospital, and recommended a different mode of treatment, to state candidly that "Dr. Collins's practice," which you

propose to improve, is much the most successful on record, as you know of no report of 10,785 cases, with a mortality nearly so small as *one in 186*. You state that there is no such "laurel to pluck from my brow," either by you or any one else. In support of this assertion, you designate the *entire* deliveries in the hospital, for the long period of *four consecutive years*, and more than *eight months*, including 10,785 births, *selected*!! cases. Surely this is too preposterous, and requires no refutation. I doubt not my readers will feel satisfied that the number of cases are *amply* sufficient to demonstrate the results as to the mortality from the *protraction of labour* and *all other causes*, exclusive of puerperal fever, the mortality from which has no more to do with the subject I have to discuss with you, as to the means of delivery in protracted labour, than a patient dying from cholera after delivery.

The second effort you make to remove my "laurel" is an equally fruitless attempt; you state that "in the Dublin Obstetric Hospital, superintended by Dr. Churchill, one mother in 219 died (puerperal fever included); one only in 274 where puerperal fever deaths were not included." If you had read Dr. Churchill's report, you would have found that in those contained in volumes xiii. and xv. of the *Dublin Quarterly Journal*, he has clearly stated that 128 patients were delivered in the hospital in the one, and 92 in the hospital in the other, making together 220, out of which there were three deaths, or one in 73. The remaining cases are as clearly stated to be *out-patients*. In the report made by Dr. Churchill in volume xxiii. the number of patients delivered in the hospital is not stated, nor can he now supply the particulars, for which I applied to him.

The third effort comes home to your own hospital, which is the place I like to meet you; here, indeed, the results speak volumes. You state that "in a printed report of the Edinburgh Maternity Hospital, then lying before you, 1 in every 184 mothers died (puerperal fever included)—1 in every 368 (puerperal fever not included).—See *Monthly Journal* for Nov., 1848." What do we find in the report referred to? This simple fact: that of 374 patients delivered in two years, in the *Maternity Hospital*, under your care, seven mothers died; or 1 in 53½; all the other deliveries were *out-patients*!! So much for that report. I have, however, accidentally found another from the same Institution, under your care, in the June number of the same journal for 1847, page 934, made by you to the Medico-Chirurgical Society of Edinburgh, to which *no reference* was made. It is extremely brief, namely, "Report of the instrumental deliveries in the St. John-street Maternity Hospital, by Professor Simpson. The deliveries in two years amounted to 1,400: one out of every *twenty-one* mothers died!! The forceps were used three times, the crotchet once." This *exactly* amounts to the mortality which I reported under Professor Hamilton, which occurred a quarter of a century ago; so that there is not a shade of improvement—nay, it is, in reality, nearly double Professor Hamilton's frightful mortality, as his patients were delivered in the hospital, whereas a very large proportion of the 1,400 must have been *out-patients* (although no distinction is made), in whom I have clearly shown the mortality is usually about *one-half*.

Any comment from me could add nothing to the *force* of these reports.

The results having been withheld, however, when commenting so fully on mine, reminds me of your countryman's sage advice—

Aye free, aff han' your story tell,  
When wi' a bosom crony;  
But still keep something to yoursel'  
Ye scarcely tell to ony.  
Conceal yoursel' as weel's you can,  
Frae' critical dissection;  
But keek through ev'ry other man,  
Wi' sharpen'd alee inspection."

In your letter to me, you state, in reply to my remark on the excessive mortality of one in 21 in the Edinburgh hospital, under the late Professor Hamilton, "you know that this high mortality arose from the prevalence of puerperal fever." I beg to say, that Dr. Hamilton positively declared that not one case of puerperal fever occurred in the period stated.—See the late Dr. Mackintosh's essay, published in 1823, where he offered any proof required, that the mortality was one in eighteen!

The fourth effort you make to justify you in stating my results are not the most successful on record is, that "most of the readers of the *Provincial Journal* could show a better return than what I have done!" This assertion is only equalled by the late Professor Hamilton's well-known appeal ("to the testimony of the public opinion of the city of Edinburgh!") On such a foundation it will require some ingenuity on your part to build.

The fifth and last effort you have made from "the Registrar-General of England and Wales" is a similarly appropriate appeal, and must have equal weight with our professional brethren. To make such visionary comparisons with the critically minute record I have given of the results in the Dublin Lying-In Hospital, requires no exposure beyond the mere mention of the fact.

Having thus developed the visionary records brought forward by you, to prove that you were not bound to state in future that Dr. Collins's practice, which you propose to improve, was the most successful known (as you declared others were more successful), I must again call upon you to acknowledge this apparently unpalatable truth. I doubt not you are intimately acquainted with all the hospital results published, and a simple reference is all I require. Let us have, however, no more wanderings, but keep strictly within the walls of the premises; and until you storm the fort with more skill and happier results, the "laurel" is likely to flourish where it has been placed.

I again unequivocally assert, that the annals of medicine afford no even distant approach to the happy result of one death in one hundred and eighty-six, in any other hospital than ours, in 10,785 deliveries; and that puerperal fever has no more to do with the deaths from protracted labour, than it is likely to have in yours.

You state in your letter to me that "the accoucheur in every case of labour has charge of two lives—the life of the mother and the life of the infant; and that out of 16,414 mothers and 16,654 infants—viz., 33,068 lives—I lost one in every 27." You add that out of 150 children born under your care in private practice, only one was still-born, and of 300 lives thus intrusted to you, only one in 100 was lost, whereas I lost one in 27. Why, may I ask, did you make this statement, as it were to place me in the shade, and withhold the report of your hospital (to which, or some other hospital, I beg you will spe-



cially recollect, from this time forth, you must strictly confine your comparisons) where, in fair competition with you, I revel in the sunshine. This was what, I think, would be called in Scotland "too canny."

I find in your hospital report, which you state you had at the time before you, that out of 1417 mothers, and 1486 infants—viz., 2853 lives, you lost one in 25!! one in 53 of the mothers died; and every *fourteenth* child was still-born!! and the reader will carefully recollect that 1101 of the patients, amongst whom this mortality occurred, were *out-patients*, whose deaths are usually about *one-half*!! the proportion of those in hospital. What more do we find in this notable report? The *astounding fact*, that of 818 deliveries, the labour in 53 *exceeded* 24 hours; or in the vast proportion of *one in six*! nay more, of the 818 the labour in 14 cases *exceeded* 36 hours; or in the large proportion of one in 23!! Let us examine my report which you have ventured to criticize with so much sentimentality.

In 15,850 deliveries, under my care, the labour exceeded 24 hours in 264 only; or in the proportion of one in sixty, so that you had *ten times* as many labours protracted beyond 24 hours, as "a case of mortality, and danger to the mother and infant," as I had. Again, of 15,850 labours, I had 130 cases extending beyond 36 hours, or in the proportion of one in 123; whereas your proportion was one in 22!! With these unquestionable *facts* before our readers, your observations on the *protraction of labour*, in the patients under my care, must inevitably sink below the level of deserving consideration. *Sir* since so many labours exceeding 36 hours, and *ten times* as many exceeding 24 hours, "causing mortality and danger to the mother and infant," not one word of which you state, but rashly "throw stones from this house of glass!!" It has now our readers now think of your observations on the "*sufferings*" of the patient, and the number that "*perished*" from protracted labour under the care of *others*, as stated in your essay on chloroform, so widely circulated in the *medical circles*, when your own cases were *ten-fold* more numerous?

The following table exhibits similar results from other reports; those of the *London Lying-in Hospital*, by Dr. Joseph Clarke and myself, hold a remarkable position.

Table to show the *proportional* number of labours exceeding 24 and 36 hours' duration, under the care of the following physicians:—

PHYSICIANS.	Total Cases of Labour.	Labours exceeding 24 hours.	Proportion of Labours above 24 hours.	Labours exceeding 36 hours.	Proportion of Labours exceeding 36 hours.
Dr. Collins .....	15850	264	1 in 60	130	1 in 123
Dr. Simpson .....	313	53	1 in 6	14	1 in 22
Dr. Joseph Clarke ...	10387	134	1 in 77	...	...
Mr. Lever .....	4666	63	1 in 75	...	...
Dr. Thomas Beatty ...	1182	69	1 in 17	...	...
Dr. Churchill .....	1285	166	1 in 8	...	...
Dr. Maunsell .....	839	36	1 in 23	...	...
Dr. Merriman .....	2947	134	1 in 22	...	...
Dr. Granville .....	640	104	1 in 6	...	...

—See *Churchill's Midwifery*, pp. 159, 189.

You charge me, in your observations on the above subject, with criticising you for losing two mothers, in your private practice, from puerperal fever, when using anaesthetics. I made no observation of the kind. I stated that you lost four patients out of 170, or, in the large proportion of one in 42.

Your theoretical "Memoir on Turning," as an alternative for Craniotomy and the Long Forceps, in deformity of the brim of the Pelvis," if thoughtlessly acted upon, must inevitably be followed by *lamentably different results* to what I have reported in the Dublin Hospital; and I do indeed shudder at the thought—to recommend, without practical experience of your own, the rash, and, in my humble opinion, unjustifiable proceeding of the introduction of the hand into the uterus, in the early stage of a first labour, to turn the child; where we can have no proof of the necessity, and where, if the necessity, as in your opinion, does exist from deformity of the pelvis, no hope of delivering one child in a multitude alive, is unquestionably a mischievous innovation. I have proved that in all the labours in the hospital, which exceeded even twenty hours' duration, and the mother died, above one-third of the children were born alive; and that of the 15 women who died subsequently to delivery with the crotchet, all but one were first children, and males; which facts militate incalculably against your theory. When we reflect that above one-third of the children were born alive in all the protracted labours which ended fatally to the mothers, and that the most extreme danger is confined to first labour—where, after the hazardous operation of turning is accomplished, the rigidity of the soft parts alone would, in every instance, cause so much hindrance to the passage of the child, as to make it nearly hopeless to save its life; but where malformation of the pelvis is to be supersadded, the danger to the mother and the child becomes so excessive, as to make your recommendation to turn unwarrantable, so far as I am capable of forming a conclusion. Herculean efforts to attempt to drag a child through a deformed pelvis, in a first labour, must ever meet with strong condemnation from the experienced physician. You state, however, that the term "experience," which I so often repeat, is misapplied. The profession, however, can alone judge of experience by the soundness or unsoundness of the deductions drawn from the knowledge accumulated by the individual. I fully agree with Bacon, that "vague and arbitrary experience astonishes rather than instructs." It is upon such grounds that I protest against your advancing theoretical opinions with so much confidence, before you have had time or opportunity to mature your judgment, and all without any substantial proof to submit to your readers of the validity of innovations, which are directly opposed to accumulated facts, and the opinions of those who have had the most authentic sources for acquiring information, and who, I believe, may appeal with confidence to their professional brethren as to their competence to form sound deductions, although you have rashly ventured to insinuate that you!! possess an incomparably superior understanding.

In your own self-satisfied feelings (I suppose) of the numerous discoveries you have published for the benefit of the profession, you say "you would fain excite me, if you could, to expend more of my abilities and talents upon the real advancement of that branch of medicine which we both practice." This is thoughtful and modest, but your standing in the profession badly qualifies

you to be my instructor. I shall, therefore, persevere as I have done, in communicating from time to time to the profession, such facts as I may deem worthy of their consideration, and which my judgment warrants me in believing may be of enduring benefit to our fellow-creatures. This duty I shall ever study to fulfil, and hope, when I am no more, those who come after may not consider me to have been altogether so unworthy as your observation is intended to convey.

I feel that I have also another duty, little less important, to discharge, which the vast number of pupils I have instructed renders so imperative upon me, that I never can lose sight of it; which is, to continue to earnestly warn junior practitioners against the adoption of rashly formed, and purely theoretical opinions, unsupported by the *results of practical experience*. Without submitting this *grand test in proof* of what we advance, our opinions are quite undeserving of consideration; such might well be designated "gun-cotton practice!" so extremely dangerous is it to come in contact with, and which so often *voluntarily* explodes, without leaving the slightest trace behind.

Mir Philip Crampton well states, in his "Outline of the History of Medicine," that a *mere speculation*, however ingenious, if it be not only *unsupported* by facts, but in direct opposition to them, cannot be received as a doctrine; and any inferences which may be drawn from such a speculation, *must be as false as the foundation upon which they rest*.

The next point I shall notice is your theoretical table of *proportions*, to show the *real number* of children *still-born* from protracted labour.

I have stated a simple fact, that, of 1045 cases accurately noted, 844 were delivered within *twelve hours*, and 982 within 24 hours—nay, more, the tables I have given exhibit *one* child out of every 19 still-born, where the labour does not exceed *twelve hours*; whereas, there was only *one* child still-born out of every 473 births, with a labour *exceeding* 48 hours; 844 were still-born under 12 hours' labour, and 35 only with the labour exceeding 48 hours. So much for fanciful *proportional* theories.

To physicians of experience it is scarcely necessary for me to observe, that, in the vast majority of *still-born* children, the medical attendant has no means *whatever in his power* to control or prevent the occurrence. The chief mortality is caused by the death of the child in the womb *previous* to labour, so as to cause its expulsion in a *putrid* condition, and likewise by the expulsion of the child *prematurely*.

Of 1,121 *still-born* children which I have reported, no less than 527 were *putrid*. The proportion in *private practice* is still greater. That the child is seldom expelled *putrid* from *protracted* labour is well known; as when it is so, the head yields so readily to pressure, that, unless the pelvis be very defective, or the parts very rigid, the labour is usually of short duration. This is quite obvious in the tables given by me, where it may be seen that in *all* the still-born children (113 in number) where the labour exceeded even twenty-four hours, 28 *only* of the children were *putrid*; and it is equally obvious from these tables, that of *all* the *women* who *died*, five only were delivered of *putrid* children.

It would, I think, be a waste of time to say more to prove that the mortality in still-born children from *protracted* labour is "*strikingly small*."

The mode adopted for the delivery of the child in cases of great danger, from deformity of the pelvis, or from great disproportion between the size of the child and the capacity of the pelvis, is one that you, and some other practitioners, comment upon with profound refinement of sentiment; so as to make those who adopt delivery by the crotchet appear (to those who are incompetent to estimate its advantages over other methods of delivery) in a most unenviable light; in fact, that they have no regard whatever for the life of the child. This is a subject that I have ever written upon, and instructed my pupils with feelings of responsibility I could not describe; and I feel the joacular observations you have made, as to "crime nor treason, &c.," deserving of the disapprobation of every medical man in the empire.

I have stated in my practical treatise on the subject of delivery by the crotchet, "that this is an operation *no inducement* should tempt any individual to perform, except the imperative duty of *saving the life* of the mother, when placed in imminent danger; and that, in my opinion, *no consideration* should induce him to do so, as long as the child is alive.—See page 18, 359. With such a statement before you, I doubt not your allusions will be considered very unbecoming, and your sentiments very ethereal. After describing the difficulties which long and ample experience conscientiously satisfied me rendered delivery with the crotchet by far the most eligible, I add, "that I have no difficulty in stating, after the most anxious and minute attention to the point, that where the patient has been properly treated from the commencement of her labour; where strict attention has been paid to keep her cool; her mind easy; where stimulants of all kinds have been prohibited, and the necessary attention paid to the state of the bowels and bladder; that, under such management, the *death* of the *child* takes place in laborious and difficult labour before the symptoms become so alarming as to cause any experienced physician to lessen the head, and this is a fact which I have ascertained beyond all doubt by the stethoscope."

You may say, and the late Professor Hamilton did say he would, deliver otherwise, and save both mother and child with more success than I have done; but the results, in *four long years*, of one death in twenty-one in the Edinburgh Hospital, as referred to above (two reported by you and two under Professor Hamilton); also, the results of two years in the last Edinburgh Monthly, as reported by you, of one mother in fifty-three having died, and every *fourteenth* child having been *still-born*; likewise, your report of one death in every thirty-one for a period of eighteen months, as noticed in my former letter; and lastly, the report of one death in every forty-two for the like period in your private practice, in all embracing nearly *six years'* experience; such a record unspeakably warns us against measures followed by a mortality, I believe, unknown, out of the Maternity in Paris, where similar means of delivery are pursued.

When we contrast the above mortality with one death in 100 in 16,414 deliveries, as I have reported in the Dublin Lying-in Hospital (including 56 deaths from puerperal fever); but still more, when we contrast it with one death in 186, including every fatality for a period of *four consecutive years and eight months* in the same hospital, and embracing 10,785 deliveries, the comparison of darkness with light is only more striking.



I have next to remark upon your statements as to the mortality which takes place in children, subsequent to birth, from the effects of *protracted labour*.

Here your theoretical table of *proportions* must be equally instructive with those I have already noticed.

Will it be believed, that out of 16,654 births, only *two* children died, previous to the mothers leaving the hospital, where the labour *exceeded* 48 hours; or in the proportion of one in 8,327 births; whereas 246 died where the labour did not exceed 12 hours!! or in the proportion of one in 57.

I have stated in my treatise, that of 16,654 births, 284 died, or in the proportion of one in 58½; which included all the deaths in children born prematurely, and in twins; also, every instance where the heart even acted, or where respiration ceased in a few seconds after birth.

Of the 284 children who died, *one hundred* were *premature* births, *thirty-two* were twins, 17 of which were premature—*seventy* children, born at the full time, died (one-half within 24 hours), and the labour in *one single instance* only exceeded 24 hours—nay, 62 of the 70 were born within 12 hours; fifty of the 284 who died, had presented preternaturally; 37 of the 284 died of trismus nascentium; in nine instances there was little doubt the mothers destroyed the children; and in nine other instances, the children were either born in an imperfect or diseased state. With such a statement before us, is it not folly to talk of protracted labour, as a chief cause of mortality to the child after birth? I would specially refer to page 500 of my work, where every circumstance is *minutely* given, and which cannot fail to remove every doubt, that the mortality in children, subsequent to birth, from the effects of a *protracted* labour, is “strikingly small,” notwithstanding any *delusive proportions*! to the contrary.

You ask why I did not state that during the three first years of my mastership, out of 5,629 women delivered 106 died, or one in 53? I answer, I could not state so and state a fact; as there were 7,547 delivered in the period stated, and 110 deaths, (*including fifty-six* from puerperal fever), or one in *sixty-eight*. You say I was assistant physician in the hospital in 1826, which is not the fact. I was appointed master in November of that year, and my calculations are all given from that period. You then ask why I did not report the mortality for a period of five years during a time I had nothing whatever to do with the practice of the hospital!!!

I have thus noticed all the *visionary statements* put forward by you, to prove the protraction of labour is a chief cause of mortality to the mother and infant, and submit, for the consideration of the profession, the validity, or otherwise, of my statements.

I have demonstrated that even in *hospital* practice, we do not meet with a death in labours exceeding 48 hours oftener than once in 1,492 deliveries; and in *private* practice such an event is not likely to be met with more than once in 2,984 labours. The mortality, therefore, I assert, is “strikingly small,” notwithstanding the high *proportional* fatality you have endeavoured to exhibit.

I have also demonstrated that with regard to the infant we have only one child still-born in every 473 births, with a labour exceeding 48 hours; whereas, one in 19 is still-born, where the labour does not exceed *twelve* hours.

I have similarly demonstrated, with regard to the death of the infant subsequent to birth, that only two children died previous to the mother's leaving the hospital, where the labour exceeded 48 hours, out of 16,654 births! whereas 284 died, where the labour did not exceed *twelve* hours.

The mortality, therefore, I unequivocally state to be "strikingly small," to both infant and mother from protracted labour, no matter what *imaginary proportions* indicate.

I have demonstrated then, so far as I know, my hospital report of one death in 186, out of 10,785 deliveries, is the most successful on record; and call upon you to refer me to any similar report.

I have demonstrated, that your own report of the Edinburgh hospital proves, that the mortality has been vastly beyond what is known in any similar institution, with the exception of the Maternity in Paris.

I have demonstrated that you had the report of your own hospital before you, when you commented upon the conjoint mortality to the mother and child, in my hospital practice of one in 27; and stated the mortality in your private practice to be one in 100; but did not state that in your own hospital every *fourteenth* child was *still-born*, and that one out of 53 of the mothers died; or conjointly in the proportion of one in *twenty-five*!

I have demonstrated that you had *six times* as many labours *protracted* beyond 36 hours as I had; and *ten times* as many exceeding 24 hours; not one word of which you mentioned in your letter.

I have demonstrated that the mortality in the Edinburgh hospital was one in 21, for a period of *two years*; one in 53½, for a second period of *two years*; and one in 31 for a third period of 18 months; although your letter states that your results were more successful than mine! and that you had only one death in 134, puerperal fever included, and one in 368 in its absence!

I have demonstrated that the mortality in Dr. Churchill's hospital was 1 in 78; in place of 1 in 219, (puerperal fever included), and 1 in 274 in its absence, as stated by you.

I have demonstrated that the excessive mortality under the late Professor Hamilton, of one death in 21, did not arise from puerperal fever, if his own statement was correct, although you state I knew it did.

I have demonstrated that I did not criticise you for losing two patients in your private practice from puerperal fever, when using anaesthetics; and that my statement was, that you lost 4 out of 170, or in the large proportion of 1 in 42.

I have demonstrated that the deliveries under my care in the Dublin Lying-in Hospital during the first three years of my mastership were 7,547, and not 5,629; and that I was not assistant physician in 1826, as stated by you.

And, lastly, and especially I call upon you to prove that I have not demonstrated that your assertion that I *maintain* "the protraction of labour is *not* a cause of danger to the mother or infant," *originated in your fruitful imagination*; and not from any opinion advanced by me.

Since the above was written, my attention has been directed to the statement made by you, in the report given in the "Edinburgh Monthly Journal" for this month, to the effect that the report now submitted is an *extension* of that made to the Medical-Chirurgical Society, to which I have alluded. This

would, indeed, *prove* the great danger of the *protraction* of hospital results!! Thus, in the former report given by you, "one out of every *twenty-one* mothers died;" the deliveries amounted to 1,400; whereas I now make the mortality in the hospital one in fifty-three. The difference, however, is of little consequence, in a practical point of view, between a mortality of one in 21, one in 31, one in 42, one in 53, as are shown to be your results in the *various* reports noticed. The circumstance, however, requires a full explanation on your part, as to why you stated a mortality of "one in 21," out of 1,400 cases, and now convert the 1,400 patients into 1,475, with one death in 134!! but which is, in *reality*, one death in 53, so far as the deliveries in the hospitals are concerned.

I am, dear sir,

Very faithfully yours,

Merrion-Square, Nov. 25, 1848.

ROBERT COLLINS.

P.S.—Since the above letter was sent to press, a second letter has been addressed to me. by Professor Simpson, which is a catalogue of mere delusions, as I shall demonstrate in this postscript, in the order he has placed them.

Delusion No. 1.—Dr. Simpson occupies nearly three pages in an attempt to mystify the number of patients delivered in the hospital during the three first years of my residence. The perseverance in error must now be intentional on his part, as I wrote to him, when his first letter was published, and directed his attention to page 378 of my practical Treatise, where he has full information as to his misstatement. It is there clearly shown, that from February 7, 1829, to the expiration of my mastership, (November, 1833,) a period of four years and eight months, including 10,875 deliveries, we had 58 deaths, or one in 186. These 10,875 deliveries he subtracts from the total deliveries, and declares the remainder 5,629 to be the number delivered in the first three years, whereas, the registry which he had proves the deliveries to be 7,547. This he endeavours to justify by saying that, in some of the calculations I had made, I gave (to avoid the statement of *fractional parts* of a year, which were minutely given *elsewhere*;) the deliveries as 10,875 in the last four years after puerperal fever disappeared. When he printed the present letter, however, and perseveres in stating the mortality in the three first years as one in 53, in place of one in 68, *including* 56 deaths from puerperal fever, he had my letter in his possession, pointing out the additional *eight months*, so that this exposes the first delusion.

Delusion No. 2.—Dr. Simpson *asserts* that the late Dr. Mackintosh *so* *where* asserts that the mortality in the Edinburgh Hospital, in 1821 and 1822, was 1 in 18; "that he knew far better than to make any such rash misstatements of simple facts, and that he is sorry, indeed, to add, that it is an assertion of Dr. Collins's own." This is genuine *mystification* on Dr. Simpson's part, as Dr. Mackintosh's Essay, to which I referred, published in 1823, clearly shows. This essay will amply repay the reader, and verify every iota of what I stated, although not in the *identical words* upon which Dr. Simpson endeavours to contradict me.

I have stated in my letters to the late Professor Hamilton (to which I would specially refer in the Dublin Journal), that the average deliveries in the Edinburgh hospital, for a period of 41 years, amounted to 126, which, for the years 1821-22, gives a total of 252. Dr. Hamilton acknowledged 12 women died in the two years, and, according to *his statement*, *not one case* of puerperal fever occurred. This was the frightful mortality of 1 in 21, which I remarked upon; but Dr. Mackintosh in his essay *offers any pledge* as to the truth of his statement, that *fourteen* women died in the two years, which I am satisfied will convince my professional brethren of the undoubted truth of

my assertion that he stated the mortality to be one in 18. I have added in my letter that the number I had given as delivered in 1821-22 might be slightly incorrect, owing, perhaps, to a greater proportional number being delivered in some years than others, but the difference could affect the calculation to no material extent. To take an average was the only means I had in my power to find the number delivered in 1821-22, as the annual number was withheld in the report. I find I was not far astray, as even by Dr. Simpson's return the deaths were 1 in 30, and with his number of deliveries, Dr. Mackintosh's mortality is 1 in 25. Dr. Simpson pathetically states, "*It grieves him, and he is sure must grieve my best friends and well-wishers, to see me anxious to deny that the 12 women died of puerperal fever.*" This is worthy of Dr. Simpson. He then details the undoubted symptoms of puerperal fever, under which the patients died, from Dr. Mackintosh's essay, which was EXPRESSLY PUBLISHED to prove that Professor Hamilton's declaration, that *not one case of puerperal fever occurred in the hospital, was utterly at variance with the facts*, and because I have asserted from Dr. Mackintosh's work, that Professor Hamilton *did make his peremptory denial*, Dr. Simpson good naturedly expresses his grief for me; I am now happy to relieve his mind, assuring him, that I never in my life expressed an opinion on the subject, as it would, indeed, be presumption in me to do so, when Professor Hamilton and Dr. Mackintosh, who were on the spot, and acquainted with every particular, could not agree. I have given my authority, and Dr. Mackintosh's statements require no elucidation.

Delusion No. 3.—Dr. Simpson remarks, that I said he thought he had sent me a report of the Edinburgh Hospital, which "*I never even heard of,*" and he adds that, at my own private request, he sent me a duplicate of this report *a short time ago!* When Dr. Simpson's letter appeared last month I wrote to him for the report, and asked him if he had such proof as to *satisfy him* that it might be *strictly depended upon as correct!* This veritable report! was then sent to me without one word of assurance from Dr. Simpson as to his belief of its authenticity, and the entire report, so far as regards deliveries in the hospital, is contained in a *note to the managers*, statement of the *funds*, &c., of the charity, to the effect that from the 21st of June, 1839, to the 15th of October, 1840, 212 women were delivered within the hospital, all of whom recovered. ALL the remainder were OUT PATIENTS; and I rather think, when Dr. Mackintosh and Dr. Hamilton differed so materially as to the mortality in the *very small* number of patients delivered in the hospital, most of my readers will place *no confidence whatever* as to the results to the patients delivered in every quarter of the City of Edinburgh. It is absolute trifling with the the profession to state such records as *facts!*

Dr. Simpson has in his present letter given other returns of the mortality in the Edinburgh hospital during *certain remote* periods of its management, under the late Professor Hamilton; but these can afford no information to be relied upon, as Dr. Mackintosh's essay fully testifies. I have a return of the number of deliveries, both in and out of the hospital, from 1829 to 1838, which Dr. Simpson furnished me before he was elected professor, at the same time he informed me the mortality to either mother or infant was not to be had. If such could have been supplied, *my earnest and repeated entreaties* to the late Professor Hamilton to supply those unequivocal tests of the success of the practice he advocated, must have brought them to light. Dr. Simpson need not now struggle to supply us with such broken and untrustworthy reeds, but should supply his own results in hospital, of which he has given a very scanty allowance as yet; and when he does I shall submit with meekness to his comparisons.

Delusion No. 4.—Dr. Simpson states, that in a postscript to my former letter, I denounced the mortality in the Edinburgh hospital under the use of chloroform as "*frightful*," and that I came to this conclusion by unintentionally perverting the returns. I deny, in the most emphatic terms, any perversion whatever; I stated the deaths to be 3 out of 96, or 1 one in 31. What is Dr. Simpson's own version? of 88 *natural* cases delivered under chloroform,



one died; chloroform was also used in *seven morbid* labours "that happened to be brought into the house;" of these, two died. As 88 and 7 make 95, we need say no more as to perversion. Why three cases requiring the forceps, and four requiring the child to be turned, should be called *morbid labours*! and not to be reckoned, requires some explanation. How carefully did Dr. Simpson collect, in his *imaginary proportional tables*, ~~and~~ the *morbid labours* in 16,414 deliveries that "happened to be brought to the Dublin hospital," many of them nearly lifeless! I made no remark whatever as to the share chloroform had in the unhappy results stated. We have on record, however, several deaths, of which there could be no doubt it was the immediate cause; and I have never even heard of *one life* having been saved by its use. An admirable address, delivered by my friend, Professor Montgomery, at the last meeting of the Dublin Obstetric Society, which is shortly to be published, contains valuable information on this subject.

Delusion No. 5.—Dr. Simpson ventures to state that I have decried his private practice, and that it was wrong in a physician, and above all, the President of the College of Physicians in Ireland, to indulge himself in an attack upon the private practice of any member of the profession. I feel satisfied my professional brethren will acquit me honourably from so foul a charge. I simply stated the *facts* you had published as an *example* to others; and I feel it my duty to state the unsuccessful results. If doing so be unprofessional, I plead guilty, but others must judge between us. It is rather strange that you conspicuously contrast your *private practice* with my hospital reports, at the same time carefully withholding your own; and yet, when I direct attention to the same points, you question my knowledge of professional decorum. I can state with truth, however, that there is no circumstance connected with my professional pursuits ever afforded me the same real gratification, as the feeling that, however undeserved, I have always possessed the good opinion of my brethren; and I will add, that it shall ever be my highest ambition to retain it.

Delusion No. 6.—Dr. Simpson states, in conclusion, that this discussion was entirely commenced by me, not by him. Those who have read the medical journals, however, for several years past, and the popular essays on chloroform, with which the domestic circle has been so wantonly shocked with the "sufferings" of women in protracted labour, and the number that "perished," well know the fallacy of this assertion. From the palace of royalty in England, to the representative in Ireland—to the fellows of Trinity College, Dublin, and sundry other learned individuals, these singularly censurable pamphlets have been supplied, plausibly founded upon the authority of Dr. Collins; when the "sufferings" of the patients under Professor Simpson, from protracted labour, were proportionally TEN TIMES more numerous, and SIX TIMES more fatal, have been scrupulously concealed. These misdeeds, after a lengthened period of forbearance on my part, were followed by an essay "on turning, as an alternative for craniotomy and the long forceps," *so fraught with danger*, that I felt it my duty to call the serious attention of the profession to the entire of these *innovations*, and I believe the *exposure* is likely to be followed by good results.

Dr. Simpson states he will not promise to answer any further communications on this subject.

As his observations in publicly addressing me, sometimes, nearly approach his private correspondence, I fear I shall be constrained to treat him in the same way I have already done with regard to the latter, and to request that when, in future, he has nothing more polite to address to me he will save himself the trouble of writing.

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We shall be happy to find Dr. Simpson space for a Reply.—ED.

A  
CYCLOPÆDIA OF OBSTETRICS,  
THEORETICAL, PRACTICAL,  
HISTORICAL, BIOGRAPHICAL, AND CRITICAL,  
INCLUDING THE  
DISEASES OF WOMEN AND CHILDREN.

EACH TERM IS GIVEN  
In its English, Greek, Latin, German, and French  
FORM AND ACCEPTATION;  
AND TO EACH ARTICLE IS APPENDED  
A COPIOUS BIBLIOGRAPHY;  
THE WHOLE WORK PRESENTING A  
FULL AND FAITHFUL VIEW OF OBSTETRICS,  
THROUGH ALL THE PHASES OF THEIR DEVELOPMENT AND  
PROGRESS, TO THE PRESENT PERIOD.

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ILLUSTRATED WITH NUMEROUS WOOD ENGRAVINGS.

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BY CHARLES CLAY, M.D.,  
*Licent. Roy. Coll. Phys., London, M.R.C.S., Hon. Mem. Institut. D'Afrique, Paris, Author of  
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MDCCCXLVIII.

HIC EST, AUT NUSQUAM, QUOD QUÆRIMUS.

## PREFATORY REMARKS.

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The design of the author in proposing the following comprehensive cyclopaedial arrangement of obstetrical terms, is to supply a desideratum of long existence in medical literature. Many similar undertakings have been accomplished in connexion with general medical science, (as, for instance, the Dictionaries of James, Cooper, Fox, Hooper, Ure, &c.,) but upon reference to their pages it will be perceived that obstetrics is but imperfectly represented, and treated in a manner totally unworthy of its great importance. It is, however, necessary to state that if obstetrics had been enlarged upon in a manner sufficiently comprehensive to have benefited professional readers, the co-operation of a large number of experienced individuals must have been secured, and the dictionaries themselves extended to a most inconvenient length, thus completely defeating the object of the authors to produce a moderate sized book for the use of the student and general practitioner. It is very evident that the science of midwifery, embracing so extensive and important a range of enquiry as that proposed to be instituted in the formation of our Encyclopedia, is worthy of a volume exclusively confined to itself, in which every term can be fully explained, and which will serve as a book of constant reference, affording all necessary information both for the study and practice of the profession. The author anticipates that this will be satisfactorily accomplished in the following pages, and conceives that common justice demands that the same attention should be bestowed upon obstetrics which the other departments of medical and surgical science have received, and that the same facilities should be afforded for obtaining a thorough acquaintance with the subject. It is the author's intention to produce a moderate sized work, compiled with the greatest care and impartiality from the best ancient and modern authorities of different countries, including every improvement which time and matured experience has suggested. Thus a most complete and alphabetical reference on every subject connected with theoretical and practical midwifery, the diseases of women and children, obstetrical history and illustration, will be produced.

In affording the necessary information and explanation of the different articles, it will be the author's constant endeavour to render to every practitioner perfect justice respecting priority of invention, or application, and to assign to each, every merit for what is really his own in scientific research, whilst no person shall be wilfully injured or neglected. On these grounds the author confidently anticipates the support and encouragement of his medical

brethren. The following arrangement of the vast amount of information collected for this work, will be preserved as far as circumstances will allow, viz. each article that requires it, will have its usual term, derivation, definition, and its mode of expression, in English, Greek, Latin, French, and German; then will follow the description, with other necessary particulars; and lastly, a list of the principal authorities to be referred to on the subject. In accordance with this arrangement will be interspersed, in alphabetical order, a complete biography of authors from Hippocrates to the present time; these memoirs will however be confined to those only who have written on obstetrics, the diseases of women and children, or subjects connected with these departments. Under the head of obstetric history will be arranged a well digested and voluminous account of this science from its earliest records, with all discoveries, and the persons to whom we are indebted for them, and every information which history and tradition will enable us to furnish in illustration of this most important branch of the medical profession.

This work will be illustrated by some hundreds of wood cuts, selected with care, and executed from the originals as correctly as possible. In justice to himself, the author deems it necessary to allude to his own valuable resources for undertaking and completing a work of this nature, having been engaged in obstetric practice for thirty years, attended many thousand cases of labour, and having in his possession one of the most extensive libraries of obstetric literature in Great Britain. In the course of his extensive practice it may be imagined that the author has gained considerable experience, the results of which will be added to the articles as they successively occur; and being the first practitioner in England who performed the operation of ovariotomy, and Laugier's operation for varix, as well as having invented several obstetrical and surgical instruments, &c., he is fully prepared to treat every subject of obstetric medicine and surgery, with the justice and attention its importance may demand. His extensive library offers every facility for the proper completion of this design, and the author fondly hopes that he shall succeed in producing a work which will be a faithful representation of practical, theoretical, biographical, and illustrative obstetrics as it now exists, and worthy of the acknowledged position which this subject occupies among the different departments of medical science. The editor also pledges himself that no article shall be curtailed in such a manner as to affect its utility, but that the plan proposed in these remarks will be strictly adhered to, without reference to time, until the whole is fully accomplished.

Having shewn to the medical public a specimen of the plan proposed, it remains to be seen if the profession will afford commensurate support to enable the author to continue the undertaking to its completion, assuring his supporters that the want of profit will not induce him to relinquish it, however acceptable it might be to him; but that the work will be continued to its close, if only a bare re-payment of the expenses be realised—thus trusting to the future for a reward in proportion to the merit evinced.

## Cyclopedia of Obstetrics.

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**AARON.**—High priest and physician, as most priests were at that period, and brother to Moses. According to Lemprière, A.D. 2434.—Aiken, B.C. 1574.—Luffman B.C. 1490.—Bibl. Brit. died B.C. 1452.—As a physician he communicated to the sub-priesthood the diagnosis and treatment of some skin diseases, and for the time must have been extensively informed in medical science.

**AARON, OF ALEXANDRIA.**—A physician of the eighth, some say the sixth, century, who wrote extensively in the Syriac tongue, and was the first who mentioned the measles and small-pox, then new in Egypt; which he supposes to have originated there, or, what is more probable, to have been introduced by the conquests of the Arabians. His description of the above cutaneous scourges was very good, but his works are lost, except a few fragments scattered through the writings of Rhazes.

**ABORTUS VENTER.**—This term has been used by some Obstetric writers to signify abortion, but not by authors of repute.—*Vide Abortion.*

**ABAS.**—A term bestowed by Arabian writers upon that disease commonly known as Scald-head.

**ABRAS HALL.**—According to Lemprière he wrote a book, A.D. 940, which was translated in 1127, and this induced Dr. Astruc in his learned memoir to class him as of the twelfth century. The same translation probably furnished the Doctor with the reversed name of Haly Abbas, a matter however of little consequence. This ancient physician, in his *Regalia Dispositio*, which is a theoretical and practical treatise on diseases, treats of some of the diseases of women and children; but most of his observations, though lengthy, are confined to the effects of recipes long since exploded.

**ABDOMEN.**—*Abdomen*, *F. Abdumem* (from *Abdere*, to conceal) *center*, *m. venter imus*—*infimus*, *alvus*, *f. L. γαστήρ*, Gr. *unterleib*, *unterbauch*, *schmeerbauch*, G.—The belly. One of the three great visceral cavities of higher animals. In the human species, bounded above by the diaphragm; posteriorly, by the lumbar vertebræ; laterally and anteriorly, by the muscles and integuments proper to the abdomen; and communicating below with the cavities of the pelvis. The abdominal cavity is invested interiorly by the peritoneum, and contains the chylopoietic organs, abdominal vessels, thoracic duct, and part of the urinary and generative organs. If two imaginary lines are drawn across the parietes of the abdomen, one passing over the ensiform cartilage and the convexities of the cartilaginous portions of the ribs, marks the epigastric region anteriorly, and the right and left hypochondriac regions laterally; the other

line extends from one anterior superior spinous process of the ilium to the other; and the space between this and the former line is divided into the mesogastric, or umbilical, and the right and left iliac regions on either side. The middle space under the last line is termed the hypogastric, and on either side lie the inguinal regions, right and left; whilst the whole of the posterior part of the abdomen is called the lumbar region.

A glance at the following diagram will satisfactorily shew the different regions, excepting the lumbar, which is situated posterior to the view.



1. Epigastric region. 2 and 3. Hypochondriac regions. 4. Meso-gastric or umbilical regions. 5 and 6. Iliac regions. 7. Hypogastric region. 8 and 9. Inguinal regions.

To the Obstetrician every particular connected with the abdominal cavity is of great importance, as will be proved upon reference to the various articles.

**ABDOMEN, CAPACITY OF.**—Is exceedingly variable, and is constantly differing in form and extent, according to the attitude and position of the body and various other circumstances. Its developments are often very extraordinary in cases of obesity, pregnancy, ovarian, and uterine diseases, ascites, tympanites, &c. The male abdomen is capable of considerable extension, but the greatest extremes are to be observed in the female; for instance, a multilocular ovarian tumour has been removed by the editor of this work, which weighed seventy-three pounds avoirdupois, and from seventy to ninety pints of fluid have frequently been at one time removed from the female abdomen in cases of ovarian diseases, ascites, &c. A case lately occurred to the author, in which a full period pregnancy was combined with ascites, the child weighing nine pounds, with a large collection of liquor amnii, being born, and forty-eight hours after, paracentesis abdominis was performed, when forty-five pounds of ascitic fluid was removed. As may be easily imagined, the extension of the abdominal walls was extreme. The large quantity of liquor amnii arose from a dropsical affection of the uterine membranes (Hydramnios) described by Ryan, R. Lee, and many others, but a case similar to this, of ascites, hydramnios, and pregnancy combined, is of very rare occurrence.

**ABDOMEN, CAVITY OF.**—Is an elongated ovoid; concave anteriorly, laterally and superiorly; convex posteriorly, and open inferiorly. Its diameter is longest in the centre, caused by the disposition of the diaphragm upon an inclined plane. The antero-posterior diameter is most extended on the sides. Although the word cavity is used, it is evident such a term could only be strictly applied when empty of its contents, it being filled with viscera. The real cavity (if any) being the space between the reflections of the serous membrane lining the parietes of the abdomen, and the abdominal viscera, termed the peritoneum. It is in this cavity, so called, that the fluid in dropsies is deposited—that is, between the inner surface of the abdominal parietes and the anterior surface of the viscera.

**ABDOMEN OF THE FÆTUS.**—Is large during uterine life, but seldom interferes with the obstetrician except from some morbid cause, which is of frequent occurrence. La Motte mentions some cases of fetal ascites which produced considerable obstruction during delivery. In some cases the liver, and in others the kidneys, are often enlarged to an enormous extent. It is occasionally necessary to perforate the abdomen after the birth of the head and shoulders. Dr. Hemmer mentions a case in which it was necessary to empty the abdomen of its contents to facilitate delivery. Hydatids have been known to distend the abdomen considerably (*vide Neue Zeitschrift für Geburtshilfe*, band 4, heft 1, 1836). Great distension will sometimes occur from the accumulation of gases in the abdominal cavity when the child is dead in utero.

**ABDOMEN, EXPLORATION OF.**—In consequence of the numerous and serious diseases affecting the abdominal cavity, and the great liability to confound them with each other on account of similarity in their general features, careful exploration is frequently demanded, and no one more frequently requires its assistance than the obstetrician. Exploration may either be made during life or after death. In the living it is chiefly to be conducted in three ways—first, by Inspection—secondly, by Manual Examination—thirdly, by Percussion—and to these we may add Auscultation. Dr. Forbes gives some excellent information on this subject, which we cannot do better than offer to our readers.

**ABDOMEN, INSPECTION OF.**—By mere inspection we discover the size and form of the abdominal outline necessary in pregnancy, ovarian disease, ascites, tympanites, enlargements of the liver or spleen, or any other circumstance that may tend to increase or diminish the outline, or render it regular or irregular. For instance, in ovarian diseases there is frequently a greater fulness on one side than the other, and also irregularity of the outline. In cholice the parietes of the abdomen are contracted. In enteritis or peritonitis the inferior limbs are flexed, which enables their detection in infancy. In these diseases, and when the parietes are distended by the gravid uterus or by morbid growths, the respiration is thoracic, the walls of the abdomen being to a certain extent immovable. On the contrary, when the disease is in the chest, or at the approach of death, the respiration is indicated by the regular movements of the abdominal parietes. As inspection is but limited, we must have recourse to other methods, as for instance to—

**ABDOMEN, MANUAL EXAMINATION OF.**—This mode of examination is performed by the simple touch, or touch combined with pressure. When the hand is employed there are a certain number of points to be considered, such as form, size, degree, tension, solidity, temperature, sensibility, presence or absence of morbid productions, either solid or fluid, in the abdomen. When the temperature and sensibility are increased, we may detect it by the touch, or by moderate pressure, as in enteritis or peritonitis; but in the latter it should be applied towards the spine, from before backwards, anteriorly and laterally. There is, however, an inaccuracy in judging of temperature by the touch, as the sense of heat in the hand of the practitioner may be increased or diminished, as no two persons possess the same degree of sensation. We



should therefore use a small thermometer to ensure accuracy. It is not unusual to hear the patient complaining of burning heat, although, at the time, the surface appears almost of the natural temperature. In cholic, and often in intestinal irritation, the temperature of the abdominal surface is not increased, which is a distinguishing point between those diseases and inflammation. Some persons, whilst exploring, press violently on the various parts, thus causing the patient to wince or even scream, and then conclude that some visceral disease is present when, in reality, none exists; indeed violent examinations of this character would indicate the constant presence of disease of the viscera. The pressure should be moderate and gradually increased, and very frequently the tip of one or two fingers pressed down steadily upon various parts will detect disease where the broad pressure of the hand had failed to point it out. The countenance must be narrowly watched during the pressure, as it will be characteristic of the degree of suffering, should any acute or chronic disease really exist; we refer to our article, *Diagnosis*, for further information. The expression of the countenance is of considerable importance in defining disease. For the easiest mode of exploring the abdomen the patient must be placed on the back, the head raised and bent forwards, the arms extended along the side, the thighs bent on the pelvis, the legs placed against the thighs, the knees separated, and the soles of the feet resting on the bed near each other. In this way the abdominal muscles are relaxed, and the patient must be cautioned against making muscular efforts or preventing respiration. By these precautions we can generally detect tumours with ease, still it requires caution and no little experience to prevent confounding morbid growths with protuberances of the spinal column, accumulation of feces, &c. &c. If fluid deposits are suspected, the patient must, if practicable, be placed in the erect position, so as to render the abdomen tense by the determination of the fluid to the lower part of the abdominal cavity. If the patient is unable to stand, lying on the back is the next best position, with the head low and the feet extended. The points of the fingers of one hand must be placed against the parietes of the abdomen on one side, whilst with the other hand a smart tap is given to the opposite side of the abdomen, when if any fluid exists the fluctuation will be felt more or less distinctly, according to circumstances, against the tips of the fingers. Sometimes when the distension is very great the fluctuation is somewhat obscure; in such cases the fluctuation may be more clearly perceived by pressing below the umbilicus and tapping on the sides. Another mode, termed peripheric or superficial fluctuation, has been proposed by M. Tarral. Both hands are placed on the abdomen near each other, the fore-fingers being parallel; if percussion be made with either of the fore-fingers, a kind of undulatory motion will be felt by the other index finger. (*Vide Piorry du procédé opératoire à suivre dans l'exploration des organes par la percussion médiate, Paris, 1830.*) It is of great consequence correctly to determine whether fluid exists or not before the operation of paracentesis abdominis is attempted, as instances are on record of the trocar having been inserted and no fluid has escaped; a circumstance which must place the practitioner in a very awkward position. Another mode of exploration is termed

**Abdomen, Percussion of.**—This is effected by a flat piece of ivory being placed on the abdominal surface, and striking the ivory with the tips of the fingers: The ivory plate is termed the *Pleximeter*. Some strike the plate with a hammer of a circular form, like a penny piece, covered with leather, and having a handle inserted into its centre; others consider that the fingers of one hand with their insides near the abdomen form a good substitute for the *Pleximeter*, whilst the back parts of the fingers so placed are struck by the tips of the fingers of the other hand in lieu of a hammer. The blow with the hammer or tips of the fingers should be smart, and two or three times repeated over the same spot, to ascertain a good idea of the sound produced, for it is by the sound that the judgment is guided. Considerable care is also required in the application of the *Pleximeter*; for instance, if applied by a slight pressure and percussion used, the sound elicited will be clear if the intestines contain any gaseous matters; but if the *Pleximeter* be pressed heavily on the surface, a different result will be obtained, that is, a dull sound will be elicited, in consequence of the tube of the intestines containing the gas being forced upon some solid part below, as the spinal column, &c. As the stomach and large intestines contain a quantity of gas when in a healthy state, percussion will of course elicit a clearer sound than if these parts were filled with solid materials. The small intestines containing less air, of course the sound will be duller over them. The cœcum and colon are often distended with gas, and will yield an acute sound. By this mode of percussion the size of the liver, gall-bladder, spleen, kidneys, and urinary bladder, may be ascertained with tolerable accuracy. Dr. Forbes mentions a case of partial adhesion between the peritoneal covering of the liver and the diaphragm. Ascites and Anasarca supervened, and though the liver was small, there was a dull sound about three inches above the site of this organ, which was explained on dissection by the presence of fluid between the liver and diaphragm, in the sac formed by the adhesion. The umbilical and hypogastric regions elicit a dull sound in ascites, the epigastric and hypochondriac regions will emit a clearer sound from there being more gaseous and less fluid material. Again, if the ascitic patient be placed horizontally, the fluid gravitates towards the lumbar region, and the sounds elicited on the surface of the abdomen will be clearer, in consequence of the gaseous products approaching nearer the parietes of the abdomen. This varied character will not be observed in cases of encysted ovarian dropsy, or hydatids, as the fluid is confined to a certain position. In all cases of solid tumours coming in contact with the abdominal walls, the sounds on percussion are very dull. From what has been previously stated, it is evident that although percussion is a most valuable agent in diagnosing abdominal disease, &c., it must not be solely relied upon, but combined with Inspection, Manual Examination, and Auscultation, of which we shall now speak.

**Abdomen, Auscultation of.**—This department of abdominal exploration, though last on our list, is fully equal in importance to any of the others, the stethoscope being a most valuable instrument, provided the medical practitioner is not deaf, and possesses a nice, or what is properly called a musical ear. We maintained this opinion before the Medical section of the British Association when assembled in Manchester, our arguments being supported by long obser-

vation of the absurd manipulations with this valued instrument frequently instituted by persons who, if not deaf, were so dull of hearing, that any nice discrimination of sounds was altogether out of the question. Indeed we may confidently assert that a really good stethoscopist is very rarely to be found; many of those who so frequently parade stethoscope in hand may with reason be suspected, and their diagnosis doubted. Still the stethoscopic means are highly valuable when properly conducted, either by using the instrument, or by applying the ear of the operator directly to the surface; when delicacy will allow, we much prefer the ear to any tubular instrument. In applying Auscultation to the abdomen we are led to results relative to the accumulation of gases, aortic circulation, the existence of utero-gestation, &c. Lisfranc uses auscultation in combination with the usual sounding instrument in striking a calculus in the bladder. Auscultation is also useful in rupture of abscesses, or cysts in the liver, extending into the lungs or abdominal cavity. On a first view it appears extremely easy to determine the precise seat of lesions of the abdominal viscera, but the contrary is the absolute fact. The prodigious number of parts contained in the abdominal cavity, their extensive mobility and frequent displacement, the immense variety of their diseases, the innumerable changes occurring in the vitality of the organ without pain, the various thickness of the abdominal parietes in different individuals, will explain some of the causes which render the diagnosis of abdominal diseases so very difficult, and will fully justify the Ancients in declaring, that the knowledge of the hypochondria was the most important, and at the same time, the most difficult part of medicine. The convolutions of the intestines, their displacement by different attitudes, their distention by gas and fecal matter, the distention of the stomach—at one time occupying a very large portion of the abdomen, at another being contracted to a very small compass—the development of the uterus during pregnancy, and its enlargement by disease, so as to extend to, and even encroach upon, the chest, the various diseases of the ovaries and their enormous enlargements, the diseases of the intestines, liver, spleen, pancreas, and kidneys, the transposition of the viscera, distensions of the bladder, and various morbid growths, render the diagnosis of abdominal diseases peculiarly difficult. From these observations it will be perceived how necessary it is to combine the different modes of exploration in order to secure a just diagnosis, and more particularly with respect to abdominal diseases. It is unnecessary to extend our observations on this subject under the present article, as more information will be found under the heads of Auscultation, Pregnancy, and the various diseases of the abdominal cavity, as they occur in the order of our arrangement.

**Abdomen, Diseases of.**—Many of the diseases of this extensive portion of the human frame have a strict reference to, and conjunction with, obstetrics, and to avoid confusion and unnecessary repetition, will be enlarged upon under their respective names.

**Abdomen, Coldness of.**—Dr. Denman's remarks will afford all necessary information on this subject. "When children die towards the conclusion of pregnancy, women not unfrequently complain of coldness of the abdomen, and, at the instant of death there is generally a violent shivering. But when women in labour speak of this coldness, there is not actual coldness

externally, but a sense of it felt by the patient. The supposition that a dead child is colder than a living one is the principle which gives to this sign its chief importance. But whether a child has been dead for a short time or for a long time, it is generally found to be of the same degree of heat with the uterus in which it was contained; and it is even hotter than the uterus while it is in the act of putrefying. The principle being fallacious, the inferences must often mislead, and the child is often born living, though the mother, before delivery, complained of this coldness; which may have been produced by some contingent circumstances, as the great heat of the room when she is in a state of profuse perspiration, or the sudden admission of air under the bed clothes in winter. Little stress is to be placed on this sign alone, but when accompanied with others, it may increase our suspicions of the state of the child." A few remarks on this subject will be found in *Merriman's Synopsis*, *Counsell's Art of Midwifery*, 1752, *Kennedy's Obstetric Auscultation*, and in other authors, but they are similar to those already given.

**Abdomen Pendulous.**—In some females, from the peculiarly wide formation of the ilia, and in others from too great a degree of relaxation of the abdominal parietes arising from debility, often the result of too frequent or too rapid childbearing, the fundus uteri hangs forward over the symphysis pubis, and is of considerable moment in preventing the contractions of the uterus forcing the head of the child in a proper direction into the pelvic cavity, and thus labour may be considerably retarded. Dr. Rigby, in his system of midwifery, states that the pendulous abdomen interferes also with the dilatation of the os uteri, which we are inclined to think has been considered of too much importance, simply because we believe that the uterine fibres concerned in the dilatation are entirely different, and act independently of those which, when in action, have the power of expelling the fœtus from the uterine cavity. This opinion is borne out by practical demonstration, (*vide Medical Times*, Vol. 12, Page 27, &c.) The obliquity afforded to the uterus by the pendulous abdomen occasioned many ancient authorities to suppose that it materially altered the position of the child in utero from its normal state. Daventer argued strongly in favor of this opinion, but we have no reason to believe that the statement is proved. We do not altogether deny the commonly received doctrine, that the dilatation of the os uteri is interfered with by the obliquity of the uterus (or pendulous, as some call it.) It appears, however, a paradox which requires explanation, why the uterus, when contracting and effecting a pressure by the membranes, waters, &c., should not exercise as much power in one oblique direction as another of about equal inclination. Until this is more satisfactorily explained, we cannot allow that much interference can arise from the obliquity of the uterus with the dilatation of the os uteri. Tedious labour caused by the pendulous character of the abdomen is not unfrequent, but is often neglected or unnoticed by the inexperienced practitioner. It is, however, easily remedied by the horizontal position, the patient lying on her back; to this position British females appear strongly to object, until compelled to adopt it by necessity. Occasionally the pendulous character is in the extreme, (though somewhat rare,) in which case it is necessary, in addition to assuming the above position, to lift up the pendulous portion by a broad bandage, properly applied, and to preserve it in that position until the

head has fairly entered the pelvic cavity. Sometimes the patient is in bed when the practitioner arrives (unless the pendulous character is too prominent a feature to be overlooked,) and time passes without any advancement in the labour in consequence of the patient lying on her side; at length the attention of the practitioner is directed to the true cause, the position is altered, and labour progresses favourably, and often rapidly. Dr. Dewees mentions some interesting cases on this point of practice, and also states being aware of an instance, in which it was supposed occlusion of the os uteri existed; to remedy which, at the time of labour an incision was made, and the child delivered through it. The woman recovered, and was afterwards delivered of other children, *per vias naturales*, to the disgrace of the practitioners who performed the operation. This cruelly managed case was the antversion of the gravid uterus, or what is understood in this article by the *pendulous abdomen*, the os uteri being so tilted up towards the promontory of the sacrum, that it was difficult to discover. Nothing, however, can justify such a cruel proceeding, for as certain as conception was established, so certain was the existence of an os uteri. It has been stated by Dr. Rigby, though not on his own authority, that in such cases strong adhesions having taken place between the os uteri and posterior wall of the vagina, no trace of the former will be felt, and that, under such circumstances, the operation above described becomes necessary. Our opinion is, that a case sufficiently authenticated to justify this operation does not exist, and until such can be produced, the operation must be unconditionally condemned.

**Abdomen, Presentation of.**—*Vide* article Presentation.

**Abdomen, Subsidence of.**—Labour is usually preceded by a general and equal subsidence of the uterus. This is a favourable symptom, being an indication of a well-formed pelvis, and that the parts are properly disposed for labour. It is occasionally effected by the spurious pains, but often occurs almost imperceptibly; it sometimes takes place several days before delivery. *Vide Merriman's Synopsis.*

**Abdomen, Distention of.**—This may arise from various causes, as pregnancy, morbid growths, accumulation of fluid in the peritoneal cavity, accumulation of solid, fluid, or gaseous matters in the stomach or intestines; but distention of the abdomen from gaseous matter within the peritoneal cavity is unknown; the best authorities never having witnessed such a case, nor did such ever occur except in the imagination.

**Abdomen, Flaccidity of.**—This occasionally occurs after parturition, the parietes of the abdomen not being able to resume their proper tensiety. Improper bandaging, or the entire neglect of it after delivery, united with constitutional debility, is the most prominent cause of its occurrence. Rest, mild tonics, and proper bandages, are the best remedies. "*Vide Dr. Blundell's Principles and Practice.*" "*Dr. Murphy's Lectures.*"

**Abdomen, Bandaging of.**—Bandaging of the abdomen is of immense importance to the obstetrician and demands his most particular attention, because (as Dr. Murphy justly observed in his lectures on natural and difficult parturition,) it may be rendered useful or mischievous according to the manner of its employment, and many objections raised against its use, have originated in its improper application. Sometimes it is so tightly bound over the uterus as

almost to prevent respiration; at other times it is so carelessly applied that the least motion of the patient displaces it, and it becomes twisted round the loins like a rope. A bandage is intended to support the pelvis, the articulations of which, having undergone considerable tension, become painful, and also to support the uterus and abdominal muscles by moderate and equable pressure. The mode of applying the bandage, for these purposes, is to commence by drawing it evenly over the pelvis, its lower edge, when so placed, being just below the trochanter; this margin should then be drawn as tight as the patient can bear it, and fastened there. The bandage should then be drawn across the ilia and fastened. And lastly, the upper edge of the bandage should be drawn tight and fastened, taking care that its pressure throughout be equal. When properly adjusted it invariably affords great relief, which proves its utility. Some make use of napkins, doubled across corners, which is a very bad practice, and prevents an equal application. Others use bandages complicated and difficult to apply, which are not beneficial when applied, having too much the character of corsets, and causing more pressure to the waist than support to the abdomen and pelvis. Others, again, use a wide band of double calico, and, provided it is not too wide, it forms one of the best, and can always be easily obtained. Dr. Murphy states that calico, as well as diaper, is too unyielding, and he therefore prefers a double fold of flannel as being soft, yielding, and affording the due amount of equal pressure. For our own part we have always found that calico perfectly answered every purpose, though we have no objection to the use of flannel when the patient can bear it; but in general it is too irritating to the skin, and produces uncomfortable warmth. Dr. Murphy very justly observes that bandaging must never be left to nurses or attendants; the obstetrician that is anxious to gain credit and avoid hæmorrhage must always perform it himself, and care must be taken that it is properly accomplished. It is absurd to speak of offending the delicacy of a female where delivery has taken place, and there can be no just ground for objecting to the application of an abdominal bandage. Bandages are applied under four different views. 1st. In the latter months of pregnancy when the belly becomes pendulous, particularly in fat women. 2nd. At the commencement of labour, applied outside the clothing, to be tightened after the waters are discharged, which is supposed to give more energy to the uterus by pressure. 3rd. After the fetus is expelled the bandage is still further tightened to prevent hæmorrhage, and facilitate the expulsion of the placenta. And lastly, after the placenta is expelled, with the object of restoring the abdominal parietes to their proper tone, by the mode of application alluded to above. Almost all the modern systems of midwifery may be consulted with advantage on this point, but particularly Churchill, Blundell, Murphy, Campbell, and Dewees. Mr. Gaitskell's obstetric bandage has been highly recommended, and, where it can be procured, answers the purpose well. The inventor states, in praise of its efficiency, that out of seven thousand cases in which it was used in forty-five years, he does not remember one fatal case of uterine hæmorrhage. This number is large, but the statement is probably correct, as the bandage, though not perfect, is undoubtedly good; still the objects which bandages are intended to secure may be obtained by simpler means, as has been before stated. The bandage of Mr. Gaitskell costs about

four shillings, which is more than the really poor can afford; sixpence or eightpence will provide one of calico or flannel, and the material may serve other purposes afterwards. For some excellent observations on application of the abdominal bandage, see "Prac. Obs. Midwy.," by M'Clintock and Hardy, Dublin, 1848.

**Abdomen, State of After Delivery.**—It is sometimes necessary to ascertain the state of the abdomen, in connection with other circumstances, in order to prove recent delivery; but as we shall fully enter into this question under the article (*Delivery, Signs of*), it will be sufficient to state here a few particulars relative to the abdomen alone. Dr. Montgomery observes, "The abdomen is full, its integuments greatly relaxed, or even thrown into folds, especially in those who have borne several children; the skin is remarkably movable on the subjacent muscles, and occasionally the muscles are found separated along the median line (in one instance the recti had separated from each other to the breadth of a hand), and we recognise those light coloured, broken streaks, or cracks, already mentioned, which are generally most numerous from the groins and pubes towards the umbilicus, which is often found projecting and of a conical form. In some cases, also, there is to be seen extending between these two points, a brown line of about a quarter of an inch in breadth, especially in women of dark hair and strongly coloured skin. If the hand be pressed pretty firmly over the lower or pubic region we feel the tumour produced by the volume of the imperfectly contracted uterus, which is found, when examined within a day or two after delivery, about as large as the head of a new born child, and rising three or four inches above the brim of the pelvis, into the cavity of which it can be traced by the hand lying either towards one side or the other." This relates strictly to the abdomen. Most of the signs of delivery, however, disappear after the fifth day, therefore, the greatest care is requisite in giving an opinion after a few days have elapsed. Vide "*Dr. Ryan's Manual of Midwifery*," "*Campbell's Study and Practice of Midwifery*," "*Blundell's Principles and Practice*," and other systematic writers.

**Abdomen, Muscles of.**—The muscles of the abdominal parietes, when in action, are generally supposed to contribute a considerable share of power to the efforts of parturition. This view of the matter is perhaps a little overrated, for the simple contraction of these muscles would be very ineffective if not assisted by a powerful inspiration, preventing expiration as long as possible, and thus forcing the diaphragm downwards by distending the lungs; the result of which is to lessen the abdominal cavity by bringing the parietes of the abdomen into close contact with the gravid uterus, and thus stimulate the uterus into action by pressure, which is in some measure assisted by the contraction of the abdominal muscles. Tedious parturition sometimes arises from a want of energy in the action of the muscular tissue, not only of the parietes but of the diaphragm and uterus also. This want of energetic action, or muscular contraction, may arise from general debility caused by previous disease, exhaustion from tedious labour, abuse of spirituous liquors, &c., &c. To show how much the respiratory organs are concerned, tedium in labour as frequently arises from causes tending to impede respiration as from any other, viz., excessive corpulence, great deformity of the spine, bronchocoele, spasmodic asthma, rheumatism of the diaphragm, ascites, hydrothorax, phthisis, pneu-

monia, aneurism of the aorta, dilatation of the heart, or any other circumstance which prevents, in the slightest, the party drawing a full inspiration. It is therefore necessary that the obstetrician should carefully study the state of his patient, and place her in a position to take a full inspiration either by position (as in deformity, &c.), or in the case of active disease, by remedial measures such as may be indicated by the case.

**Abdominal.**—*Abdominalis*, L. *Zum schmeerbauche gehörig*, G. **Abdominal**, F. Belonging, or relating to, the abdomen.

**Abdominal Viscera.**—A knowledge of the situation of the visceral contents of the abdomen is of great importance to the obstetric practitioner, and by referring to the diagram (*vide Article Abdomen*) the position of various organs may be easily defined. Towards the epigastric region, the central portion of the stomach, the duodenum, the left lobe of the liver; a part of the epiploon, of the transverse colon, and of the pancreas, the trunk of the vena cava inferior, that of the vena porta, the superior part of the abdominal aorta, the celiac and superior mesenteric arteries, and the inferior extremity of the thoracic duct. Under the right hypochondrium, the right lobe of the liver, the gall bladder, and the right portion of the transverse colon. Under the left hypochondrium, the base of the stomach, with a portion of the transverse colon, of the epiploon and pancreas. In the umbilical or mesogastric region, the middle portion of the epiploon, of the jejunum, of the mesentery, the abdominal aorta, and inferior cava. In the loins, to the right, the jejunum, descending colon, the left kidney, and left ureter. Behind the hypogastrium, the middle portion of the ilium, and inferior part of the colon. In the right iliac region, the cæcum, ilium, and right ureter; in the left, the ilium, the sigmoid flexure of the colon, and the left ureter. On the sides, in man, the spermatic vessels; in woman, round ligaments of the uterus, the ovary, and fallopian tube. And in the inguinal regions, the inguinal glands, crural vessels and nerves; in man, the spermatic cords, and in woman, the round ligaments. Independent of these parts, are numerous nerves, blood vessels, and lymphatics. The abdomen also contains the organs of chymification, and chyification, those of defæcation, of the biliary, pancreatic, and urinary excretions; part of the organs of generation; part of the bladder when distended, the uterus in pregnancy of latter months, or when enlarged by disease of its structure. This slight sketch proves how important it must be to have a correct idea of the abdominal viscera in the diagnosis of the many and serious diseases to which the organisms of this cavity are liable.

**Abdominoscopia.**—s. f., abdominoscopio, f., L. (*Abdomen and σκοπεω, I survey*) exploration of the abdomen as a means to arrive at a diagnosis in respect to the existence of disease (*die untersuchung des unter leibes*, G.) for the detection of disease. (*See Abdomen, exploration of.*)

**Abuenafl.**—An Arabian Physician of the twelfth century, who wrote on diet and the virtues of medicine. *Venice*, folio 1581.

**Abi-Osbia.**—Flourished about the twelfth century—published a list of previous writers on female complaints. The list amounts to no less than 300, very many of whom are only known as existing in his list, their writings being lost. Perhaps the list itself is a little exaggerated.

**Ablactatio.**—s. f., ablactatio, f. L. (*ab, from, lacto, I suckle*),—*abstugung*,



G.—ab lactation: *cessation from suckling*, as regards the mother; thus distinguished from weaning.—*Serrage*, m. F.,—*a lacte depulsio*, L.,—*entwöhnung*, f. G.,—on the part of the child.—Ab lactation may be natural or spontaneous, and these are confounded with agalacty. In some rare cases there is no secretion of milk after parturition, or the secretion may cease in a few days, as it does after weaning; or it may be suspended or permanently disappear from morbid causes. If ab lactation be desirable after delivery, the object may be gained by encouragement of the lochial discharge, cutaneous transpiration, low diet, confinement to bed, laxatives, venesection, and any other means necessary to prevent that plethoric state which is favourable to the secretion of milk. Diaphoretics and diuretics prevent the secretion of milk. The practitioner will often hear curious remedies proposed by old women, and whether it is to be attributed to imagination or not it is difficult to determine, but some of them have occasionally succeeded. We have generally found covering the mammae with diachylon plaister to be very effective combined with purgatives, and generally all that is necessary. If ab lactation is to be effected at the time of weaning, it may be accomplished by similar means, some consider emmenagogues, powerful sudorifics, and purgatives necessary, but we would caution the practitioner against their use, because simpler means seldom if ever fail. In severe cases, where the breasts become inflamed, distended, and indurated, it may be necessary to use emollient fomentations, and even venesection is sometimes justifiable, with low diet, light clothing, &c. It has been recommended to draw the milk from an inflamed breast that is indurated; this cannot be correct in principle, as it only excites further secretion, irritates the breast, and after all, little, very little milk obtained: it is much better to rely on soothing repellants; others recommend diluents freely drank, for what purpose it is difficult to conceive, as the system, in such cases, is so prone to secrete milk, that every means should be avoided that furnishes material for further secretion. Fomentations are always to be preferred to cataplasms, in consequence of the weight of the latter; the purgatives most applicable are the saline, and should be continued some days after the feverish symptoms are abated, which in some few cases runs high; occasionally the secretion has continued for weeks in spite of remedies used to check it, the most certain indication of its yielding in obstinate cases is the appearance of the menstrual discharge. Many popular means are highly irritative and dangerous, and therefore ought to be avoided. It is scarcely necessary to state that the child should be kept strictly from the breast; even the sight of the infant has been known to excite secretion. Some further remarks will be found under the article weaning.

Ablution.—s. f.—ablutio, f. L. (abluere to wash)—*abwaschung*, f. G.—ablution. The act of washing with water. Lavage F.—Ablution connects itself with obstetrics in as much as it is extremely desirable, and strictly necessary to health and cleanliness. Its application may be considered under three heads. 1st, To parturient females; 2nd, To females not pregnant; and 3rd, To infants and children. Among some tribes of the human race far removed from civilization, we read of it being a common practice for the parturient female after retiring from public gaze, and accomplishing her own delivery, to plunge into the neighbouring stream and perform the most perfect ablution,

the infant is also subjected to the same process before the parent seeks her kindred society, nor are we able to trace any bad consequences arising from such a mode of treatment, which is not at all improbable in a tropical climate; but in colder or even temperate regions, such an experiment would be extremely hazardous, indeed very dangerous. With the exception of parturient females, ablution is far too sparingly practised in this country. "It is not enough," says Dr. Ryan, in his Manual of Midwifery, "to use washing at the term of menstruation, but it should be applied daily, to preserve the organs of generation in a healthy condition; were this practice more generally adopted, we should meet with much fewer cases of debilitating discharges which are so prejudicial to health and comfort." Ablution must be considered as imperatively necessary as regards infants and children. It is an error, however, to suppose we can plunge a new born child into cold water in our climate, with the view of rendering it hardy, without doing great mischief, the contrast of temperature to which the child is thereby exposed is too great; therefore, what would not amount to an objection in tropical regions, would be generally attended by fatal consequences here. When a child is born, it is often very clean and easily washed, but it not unfrequently happens to be covered more or less with a white unctuous matter, styled the *vernix caseosa*, which, if not removed, may prove a source of irritation when dry, often followed by excoriations of the cuticle. It is removed by washing in tepid water, using a sponge or flannel; some recommend the white coating to be rubbed with lard, or fresh butter, to facilitate its removal; we have often found, a little oatmeal sprinkled in the tepid water used for washing effective. The skin of an infant should be carefully wiped dry after washing, and the groins, armpits, or other surfaces likely to meet each other, should be carefully attended to. In washing, it would be much better to immerse the whole body in the water, and apply the hand under the surface of the fluid, whilst with the other, the head is prevented from being immersed, rather than wash a leg, then an arm, and then some other part, exposing the infant to a tedious process of wetting and wiping; on the contrary, the plan proposed may be finished with one wetting and one wiping for the whole trunk. The infant should be well washed all over daily at least, and the parts liable to be soiled after each evacuation, to prevent excoriated surfaces; after six or eight months, twice in the week, for entire ablution, may be sufficient, and at no period of life should it be neglected more than a week, if by any possibility it can be conveniently procured. The Saturday night's swim is too valuable to be neglected. Washing of an infant should be done with all gentleness and tenderness; old nurses often pride themselves how they can knock a child about, but it is a cruel and unfeeling practice to such young and sensitive beings, and ought always to be condemned. Perhaps no argument can be used more favourable to ablution than the fact that a sensible parent will often render immediate ease and comfort to a child, and perhaps disperse many diseases, that if neglected, would soon be serious, if not fatal, by the warm bath alone, the mother's grand panacea for present minor evils and in preventing future greater ones. The advocates for cold water bathing for infants, often found some infants suffer severely, and many died: it was then proposed to sponge the body with cold water before a fire, in a warm room, with gentle frictions

after. How sensible men can reconcile such strange extremes, it appears difficult to say." On this subject, it is said, by adding a little salt to cold baths, there is less liability to take cold. We cannot but allow there are as great evils attending too hot as too cold baths, for infants at birth, and during the earlier months, and perhaps the best advice is, that if the warm bath is preferred, it ought never to exceed the temperature of the child's body more than two or three degrees: the same rule should apply to the cold bath, that is, never to exceed two or three degrees below the temperature of the child. Some of the writers of the seventeenth century eulogized baths, to which wine was added, which is too absurd to dwell upon. The ancient Greeks were great washers and bathers, which is another of the excellencies of this fine race, handed down to us by tradition or record, along with their beautiful relics of science and arts, which can never be surpassed, and must live to the end of time, although the race has ceased to exist, for we cannot allow the modern Greek to have a trace of his glorious predecessor. The Romans were slow in adopting the ablution of the Greeks, and yet we read in the time of Pliny, of 870 baths in Rome. Mr. Robertson, in his work on the Mortality of Children, argues at great length and with considerable ability, on ablution and cleanliness in the early months of infancy, and yet, strange to say, he advises the vernix caseosa *not* to be removed, *if it could be*, at the first washing, "as it seems designed to protect the tender and irritable surface, till it gradually becomes accustomed to the external air and the contact of dress." *Now if this be true, and if this be its design, why wash at all?* On the contrary, we believe that the utility of this to be entirely confined to the uterine stage of life, the real object of which we are in ignorance of, unless it be to protect the skin from being acted upon by the liquor amnii. No sooner is the child born, than it becomes adventitious matter; the sooner removed the better. Works treating on ablution are very numerous, from the time of Hippocrates, who himself wrote cautions against extremes of hot and cold baths. The reader may also refer to Le Febvre de Villebrune, Mauriceau, Pechey, Burgeois, Friend, Sayer, Currie, Jacques, Dewees, Smellie, Underwood, Armstrong, Burns, Robertson.

**Abnormal.**—A term frequently used to express an object differing in form, position, or appearance from the natural state. For instance, the pelvis, when deformed, is an abnormal pelvis, if the uterus is prolapsed, its position is said to be abnormal. This term is become very common with modern writers.

**Aborsus.**—Another term for Abortion. Vide abortion.

**Abortion.**—Abortus, L. (from aborto, I miscarry). *εχρηματισμος*, G. unzeitig G. Abortif, F.—The expulsion of the non-viable embryo or fœtus, that is, the expulsion of the fœtus before it has arrived at that degree of development in its organs, which is requisite for the maintenance of an independent existence. This is the great distinction between abortion and premature labour, though some authors state that three distinctions, or divisions exist, and explain them as follows:—If the ovum has been expelled before the sixth week, it is termed *misconception*; if before six months, *abortion*; and if after the sixth, but before the ninth, *premature labour*. Why the term *misconception* is applied to the first division, it is difficult to explain, as no miss has occurred in the conception; therefore it is advisable to reject the term entirely, and adopt *abortion* for all expulsions of the ovum previous to the sixth month

Others, again, define it thus—if the circumstance occurs before the sixteenth week, it is termed *abortion*; between this period and the twenty-eighth week, a *miscarriage*; and subsequently, *premature labour*. All these distinctions only tend to confuse the general inquirer, and the most simple and correct definition is that afforded at the commencement of this article. It is necessary to remember that if abortion occurs during the first sixteen weeks of utero-gestation, the probability of hæmorrhage is less than in the latter months, arising simply from the diminutive size of the ovum, and the small degree of development in the size of the uterus and its vessels. After the fourth month the hæmorrhage is generally more extensive, and the system suffers more severely. By calculating the period of development, at which it is ascertained that a child possesses a chance of life, at seven months or even a little earlier, and considering all previous to that period, *abortions*, and all subsequent to it, *premature labours*, the subject will be much simplified, and a correct definition will be obtained. It is true that a fetus may be expelled at a very early period of utero-gestation, and exhibit signs of life, and even move its limbs briskly, but there is no possible chance of its existence being prolonged beyond a few hours from the time of birth. It has been stated that fetuses of five and six months have lived, but these are rare occurrences, and exceptions to the general rule; allowance must also be made for errors and miscalculations of time, and that love of the marvellous so universal in females. If the miscalculation be only a week or two, it materially affects the chance of survival of the child. The least dangerous period for an abortion to occur is supposed to be between the second and third month, but the liability to abort is much greater in the earlier than in the later periods, in consequence, as Dr. Rigby states, of the connection between the chorion and decidua not being so well confirmed. The attachment of the decidua to the inner surface of the uterus is comparatively slight; and as the extent of surface which the ovum presents is very small, in proportion to that which it offers at a later period of pregnancy, it is liable to be injuriously affected by slight causes, and is capable of easy separation; at a later period it may receive a larger amount of injury without these bad effects resulting from it. Greater danger exists between the sixteenth and the twenty-eighth week, more than in earlier stages, for reasons already stated; and still more than in later periods, because the process is then one of premature labour, and the uterine action so closely resembles that of natural labour, that the danger is considerably diminished. Elderly and delicate females are more frequently subject to abortion than younger and more vigorous constitutions; those resident in towns more than those residing in the country; and those possessing a spare habit of body, are more disposed to it than the corpulent. Females once suffering abortion, are very liable to abort again, and about the same period of utero-gestation. Although the human species is more liable to abortion than the lower orders of created beings, arising from the usual attendants upon a high state of civilization, luxury, bad habits, employment, diet, &c., yet other animals are not exempt from it, as it is of frequent occurrence amongst what are termed "domesticated animals"; which may be accounted for in a similar manner—as, want of exercise, confinement, peculiar diet, &c. Among all animals in a wild state, or in the position nature designed for them, with free exercise of their own choice as to locality, diet, and exercise, abortion is



supposed to be extremely rare: though it must be confessed that our means of information concerning animals in a state of nature, are necessarily very limited. The cow and sheep, and even the pig, are very subject to abortion. Like the human being, these animals having once aborted, are very liable to a repetition of the accident; and it is a most remarkable circumstance, that in a cow-house where one has suffered abortion, others in the same building frequently do the same, becoming similarly affected, as if through imitation or infection. The sheep-owner, also, immediately removes from his flock a sheep which has aborted, to prevent the others being affected in a similar manner; and this removal is considered sufficiently preventive. What has been termed "a habit of miscarrying," has been doubted by some writers, and there are others who altogether deny its existence; there are considerable numbers, also, who argue in its favour, and strongly support the tendency of its "becoming habitual." The former class rely upon this particular question, *how is the first abortion to be accounted for*, supposing those subsequent to be admitted as from habit? The first abortion most undoubtedly could not arise from habit, and we are of opinion that, in cases of repeated abortion, the cause of the first may continue existent in the system, and be the cause of the second and subsequent abortions; that is, as long as the cause exists in a state of activity the usual consequence is likely to arise from it. For instance, if debility be sufficient, at one time, to induce the uterus to yield its retention of the ovum, unless this cause be removed, it will also be sufficient at another; and if this condition be continued, the same result may be expected at all subsequent conceptions. This, with the acknowledged tendency of uterine action to assume periodical efforts, will be sufficient to explain what has been designated *habit*. Another point has been raised, viz., that of *sympathy*, which our previous remarks on the cow-house and the flock of sheep, appear to support. The cow expels the ovum most frequently by strong convulsive efforts of coughing, which particularly effects the whole system in quadrupeds (much more so than in bipeds); this, with the facilities of pelvic passage, together with the slight adhesion of the ovum to the uterine structure in the earlier months of pregnancy in all animals, renders abortion of easy occurrence. Now it is not to be supposed that the other cows attempt the accomplishment of abortion, but they sympathize with the one that coughs; and by coughing frequently produce the same results. One animal is thrown into action because others are or have been; human beings are not exempt from this sympathy, then why should animals? Chorea has been known to extend through a whole school—one yawn induces another—one laughs because another laughs, although in ignorance of the cause of laughter. This sympathy, however, cannot directly affect abortion, but the imitation may be of that violent character as to induce a case resulting in abortion. We have frequently remarked that farmers attribute the casting of the calf to bad hay, as they notice the circumstance most frequently to occur in those seasons in which the hay has been badly harvested; the real cause, however, does not arise from the hay, as an article of food, but from the dust contained in it, which, exciting violent efforts of coughing, produces the result so much to be dreaded. Uterine functions are frequently characterized by periodicity of occurrence, thus abortion most frequently takes place at the termination of one of the months simulating *menstrual periods*. The statistics of abortion and premature births determine its

occurrence once in seventy-eight and a half cases of labour, as ascertained by the practice of Collins, Beatty, Churchill, Lachapelle, and others; in 41,699 cases there being 580 abortions and premature births.

**Abortion, Causes of.**—These may be considered as threefold, first, on the part of the mother; second, on the part of the child; third, accidental causes. Maternal causes are numerous, and may either arise from the constitution of the parent, or may result from accidental occurrences; thus including the first and third divisions of the causes of abortion. It can no longer be doubted that there are certain conditions of the maternal system so far abnormal as greatly to increase the liability to abort; thus, for instance, abortion is often attributed to some particular cause, which may be present, but in all probability it would have equally occurred if the reason assigned had been absent, simply from the abnormal condition the maternal system had assumed. On the contrary, it must be admitted that in the most delicate constitutions, and those who are considered most liable to abort, it is most surprising to observe with what tenacity the ovum will be retained, and even under circumstances we should naturally conclude would inevitably result in abortion. Thus consumptive women will accomplish the full period of utero-gestation, and produce apparently healthy offspring: Mauriceau relates a case of a female advanced to the seventh month of pregnancy, who fell from a window in the third story, broke her arm, and also suffered a dislocation, accompanied with many bruises, yet she continued to her full period, and was delivered of a healthy, living child. Dr. Davis mentions a case of a woman advanced to the fourth month of pregnancy being thrown from a horse, yet did not abort. These and many other cases can be recited, to prove the possibility of receiving a great amount of injury, without inducing abortion. On the other hand, the slightest circumstances have been known to produce it—a wrong step with the foot! a slight sprain of the ankle! moderate dancing! even reading the account of a dreadful accident, will often produce abortion. It is therefore evident that we cannot decidedly conclude that a delicate constitution invariably produces abortion, but that delicate females are more liable to the occurrence; and that when constitutional or local susceptibility is extreme, the slightest possible cause may occasion it. Again, although uterine gestation is not influenced by many local and general diseases, yet there are others which are frequently considered as causes of abortion—as, for instance, the first leucorrhœa, uterine irritation, patulous state of the os uteri, diseases of the rectum and bladder, and excessive venery. In *general diseases*, abortion most commonly occurs during typhus fever, small pox, scarlatina, measles, erysipelas, syphilis, &c. These may arise from the death of the ovum consequent upon the attack of the disease upon the mother, after which abortion becomes inevitable; which we have every reason to suppose is the case in syphilis, and very probably with the rest. There are many causes which are accidental, such as blows, falls, violent concussions, sudden or excessive exertions, lifting heavy bodies, straining, coughing, sneezing, dancing, tooth-drawing, and external injuries of every description. To this list we may add the following—emetics, purgatives, ergot, mercurialization, warm baths, mental emotion, and many others, all of which have a tendency to separate the ovum from its uterine connexions. It is truly surprising how trifling a cause will sometimes

produce it in those whose constitutions seem wholly opposed to the possibility of such an occurrence, whilst in others who appear to be in every way disposed, the ovum is retained under the severest injuries. In proof of this, are we not fully aware that females have frequently resorted to the most violent measures to procure abortion, and failed in the attempt; which confirms the truth of the axiom, that we possess no *abortives*, strictly so called (*vide, article Abortive*), if we except the manual destruction of the life of the uterine ovum. Dr. Young mentions the case of a female who miscarried thirteen times in succession. Dr. Schultze mentions one that aborted twenty-two times, and invariably about the same period of utero-gestation. We attended a case which, after three natural births, aborted six times about the third month of pregnancy; she then produced two living children at full periods, after which she aborted eight times in succession at about the second month of utero-gestation; and lastly she gave birth to two more full-period children—making a total of twenty-one conceptions. The ovaries of such females must have been rich in Graafian vesicles, and such cases are as liable to conceive as to abort; in fact, these positions accompany each other. The causes on the part of the ovum are also numerous. The principal and immediate cause is the death of the ovum, which may arise from a variety of circumstances; and whatever causes death in the ovum, will invariably produce abortion. Thus an abnormal condition of any of the three membranes or placenta, malposition of the funis, or any other circumstance having a tendency to interfere with the nutrition of the fœtus, may involve the death of the ovum; or the fœtus may die in consequence of separation from the uterine walls, whether from external or internal violence, disease, &c.; or its death may arise from the effects of disease on the maternal system. If this question could be treated statistically, and the proper data collected, we feel confident the causes on the part of the ovum would be ascertained to be of more frequent occurrence than is generally supposed, and decidedly more frequent than maternal causes, strictly so denominated. Dr. Lee gives the history of fifty cases of abortion—twenty-six were accompanied by hæmorrhage; in forty-six the embryo was diseased; and four were caused by external causes. In the forty-six suffering from diseased embryo, thickening of the uterine and placental decidua was perceived; hypertrophy, or atrophy of the placenta also existed, and deposits of bloody coagula were found in the cells of the placenta and of the chorion; the decidua reflexa was hard, yellow, and nearly impervious; the cysts of the placenta, the villi of the chorion, and the vesica umbilicali were shrunk and hard; fluid was formed between the amnion and chorion, and excessive fluid in the amnion; the chord was either unusually short, or long; the embryo missing, imperfectly developed, or malformed. Induration, or thickening of the decidua occurred, and in many of the fifty cases, clots of blood were perceived in the cells of the placenta and chorion, to which the cause of death to the fœtus is mainly to be attributed. In some of these cases the entire ovum was expelled with little pain and discharge, and by the uterine contractions alone. In others, the embryo either escaped, leaving all the membranes adhering to the uterus or was expelled enveloped in the amnion and chorion, the decidua remaining behind for days, and even weeks; and, not unfrequently, the uterine decidua was completely torn from the placental decidua, and left adhering to the uterus,

whilst the remaining parts of the ovum, covered by the decidua reflexa, escaped." Although the death of the ovum is most certainly followed by abortion, it does not, of necessity, immediately occur, as some few days may elapse, or probably, months (and if we are to credit some cases, years), before the dead foetus is expelled; such extreme cases, however, could never be considered under the general head of abortion. When the ovum is once blighted, its immediate expulsion is of paramount importance; and if we possessed positive means of ascertaining the fact, we should adopt every method in our power to facilitate such an event, as abortion, when the ovum is dead, is a natural and salutary effort of nature. Hæmorrhage, also, whether external or internal, may be considered a cause of abortion; partly in consequence of injury resulting to the foetus, and partly from distention and irritation of the uterus. Blood may be effused between the uterus and decidua, between the decidua and chorion, between the chorion and amnion; it may enter into the substance of the placenta, into the cavity of the amnion, or even into the peritoneal cavity by means of the fallopian tubes, as related by Smellie, Ruych, and Botal.

**Abortion, Signs and Symptoms of.**—In general the symptoms indicative of abortion are a sense of languor or weariness, pains in the back, and before the occurrence of hæmorrhage the patient is affected with rigors, head-ache and frequent pulse. When the ovum is dead, the face becomes pale, the eye-lids livid, the breath fœtid, the mammae flaccid; the abdomen loses its globular form, and, after the third month, the fetal, or placental pulsation, is absent. After this period, the symptoms resemble those of labour; that is, similar in every respect, though differing in degree. A slight discharge of mucus or of blood occurs; the pain in the back becomes more severe, extending round the loins to the abdomen; recurring at intervals, and increasing in strength and frequency. Sickness, also, accompanies the pains, which in some instances is increased to vomiting. The pulse becomes rapid, the skin hot and dry, and straining, &c., occurs, followed by expulsion of the uterine contents, wholly or in part. It does not necessarily follow that all these symptoms are apparent, or required for the expulsion of the foetus, as it occasionally happens that abortion is so rapidly accomplished, and with such trifling disturbance to the system, that the event is over before its probability is suspected. This is most frequently the case in females who have endured frequent abortions, whilst the sufferings of others, in intensity and duration, are equal to those experienced at full-time labour. It also occasionally happens that severe symptoms are present, but, instead of the expulsion of the foetus being effected, the full period of utero-gestation is accomplished, and a full-grown child is produced, accompanied by a blighted ovum, the cause of the abortive symptoms previously occurring. The flooding, in cases of abortion, is subject to considerable variation, sometimes the quantity being extreme, at others excessively small. Usually the whole of the ovum is expelled; but occasionally a part only is ejected, the remainder being, by degrees, discharged with the lochia. So long, however, as any part of the ovum is retained, there exists a great tendency to flooding; and when the lochia fails in freeing the uterus of all its contents, the retained portions putrefy, and produce very serious disturbances in the system—such as uterine phlebitis, &c., which require the



most careful and active treatment. Sometimes the flooding is so excessive as to endanger life, and cases are related by various authors, in which death has actually occurred; but these must be extremely rare, at least those which can be attributed to abortion *alone*. Hæmorrhage more frequently accompanies cases arising from external injuries than those resulting from other causes, but it may also be occasioned by the condition of the ovum itself. When the hæmorrhage escapes externally, the indications are clear; but it may exist internally, and in such instances we can only judge from the accompanying symptoms, which are occasionally obscure and difficult to define. The symptoms of internal hæmorrhage most usually presenting themselves, are, a pale countenance, great feeling of exhaustion, syncope, heaviness about the eyes, small rapid pulse, head-ache, rigors, pains in the pelvic region, a bearing-down pressure as though a motion was to be evacuated, a difficulty of passing urine, hurried respiration, &c. &c. The uterus becomes so hard and swollen as to attract observation, and the distension continues to increase, until that organ makes an effort to empty itself, which it ultimately accomplishes by flooding externally, and the danger to the patient is increased or diminished in proportion to the quantity of matter evacuated. It is of vital importance that the practitioner should prevent mistaking the hæmorrhage of early abortions for menstruation, as menorrhagia is frequently accompanied with the same symptoms as abortion; there is one point, however, of extreme value in determining the true nature of the discharge, and which should ever be held in remembrance—which is, that the blood from abortions is really blood, and therefore readily coagulates, whilst pure menstrual secretions rarely do, and then very slowly and partially. In excessive cases of menorrhagia, the disposition to coagulate is greater, because additional pure blood becomes mixed with the discharge; and when menstruation is strictly normal in character, it must not be considered a discharge of blood, but a *natural secretion resembling blood*. Abortion may be distinguished from colic, by the pains being principally confined to the uterine region, and by the presence of hæmorrhage; and it may easily be confounded with dysmenorrhœa, unless we remember that pain precedes the discharge of the latter. An experienced obstetrician may detect abortion by the appearance of the os uteri (on which we shall again speak in our notice of the treatment recommended by Dr. Radford). The effusion of the amniotic fluid is indicative of abortion, provided we do not mistake it for the false waters issuing from an abnormal sac, such as occur in a distended allantois, or in cases of hydrometra and dydorrhœa. The continuation of pregnancy after the rupture of the membranes, is extremely rare, and creates as much astonishment as the retention of a twin in the uterus, after its abortive companion has been expelled; which *almost* proves super-fœtation. These cases, however, are not analogous: for in cases of twins, or super-fœtation, each infant is enveloped in a distinct sac, so that the rupture of one does not necessarily involve that of the other. Besides, there is no case upon record in which a single infant was retained in the uterus to the full period of utero-gestation, after the membranes enveloping it, had been prematurely ruptured. Whenever abortion occurs about the sixth month, the flooding accompanying it is of limited extent.

**Abortion, Prognosis of.**—Abortion is at all times a serious occurrence, often entailing the most evil consequences, as it frequently produces an injurious effect upon the maternal constitution, and exercises a pernicious effect upon her future health. It cannot, however, be considered dangerous, unless accompanied with excessive hæmorrhage; and even should such occur, it is seldom terminated by a fatal result. Spontaneous abortion, or that which arises from internal causes, is usually attended with but little pain, and generally terminates without any serious accident, especially when preceded by the death of the ovum. But when abortion is induced by accident, the difficulty, pain, and danger, are considerably increased. In the early months the ovum escapes with its appendages; in the latter months the decidua remains behind. At the latter period the fœtus escapes into the vagina, with the amniotic fluid; the chord is broken, and hæmorrhage ensues. The placenta remains behind; for being voluminous, it is not expelled without considerable hæmorrhage and pain. The ovum may, after all, be retained for weeks and months, and acute or chronic metritis, or peritonitis, may be the result. In conclusion, first abortions are generally characterized by the most unpleasant symptoms, and afford the most unfavourable prospects.

**Abortion, Treatment of.**—In the treatment of abortion, the first question which presents itself to the mind of the practitioner is one of plainness and simplicity—viz., *can it be prevented?* If this be possible, there cannot exist a doubt of the duty of its prevention. If we were in possession of any positive and certain method of ascertaining the fact of the ovum being blighted, or so far injured, as to prevent the possibility of its arrival at maturity, we state without hesitation, that the efforts of nature to expel the ovum in such instances should undoubtedly be assisted and encouraged, and the means to prevent the expulsion avoided; but as the evidence upon which we are compelled to form our determination is extremely uncertain, the opposite course is generally the most justifiable. In the absence, therefore, of positive evidence as to the state of the ovum, the practitioner should, in every case, endeavour to prevent the occurrence of abortion, by the exercise of every legitimate means. It is true the attempt may fail, and the ovum may be expelled, probably possessing every appearance of a healthy production; but the practitioner has done his duty; he has administered every remedy that his profession recognizes, and he cannot experience regret, as should the event again occur, he can only apply the same preventives. If the ovum, upon expulsion, should prove to be blighted, the endeavour to prevent the abortion has effected no injury, as the same result would have occurred, whatever treatment had been adopted; therefore, as the means we possess to ascertain the state of the ovum are so extremely uncertain, the treatment at all times to be most approved is to endeavour to prevent its recurrence. When the ovum is really blighted, it is better that it should be thrown off; nature requires to be rid of it, and could we be certain of the fact, we might assist its ejection. When called to a case of abortion, if the symptoms are not found to be severe, that is, hæmorrhage alight, pains moderate, we have no right to conclude the ovum irreparably injured, or that its being thrown off is certain; preventive means ought to be immediately put into requisition; and provided those are not of the half and half character, but a steady, bold, and determined mode, in all proba-

bility the catastrophe will be averted. On the contrary, if the hæmorrhage has been severe, if the pains are violent, in all probability the ovum has been separated from its connexions, and abortion is inevitable; still we are not to presume this to be the case, if the ovum has not been ejected, and therefore the preventive means are not to be withheld in this case, although they may prove useless. The serious consequences of repeated abortions in the same female, the powerful manner in which they tell upon the constitution, and the mischiefs arising from them, are strong arguments in favour of the more general application of the preventive means. It is to be feared that many practitioners look upon even the slightest symptoms of abortion as conclusive, and take few; if any, necessary means to prevent it, which are done so lukewarmly and carelessly as to be followed by abortion as a matter of course, confirming their prognostication *by allowing it to be so*: this system of fatalism cannot be too much reprobated. If plethora be supposed the cause, bleeding must be resorted to, and that boldly and efficiently, not a little now and a little then, but at once, and sufficient to tell upon the system, followed up by rest, cool clothing, perfect quiet, both of mind and body, every exciting cause removed, and stimulants rigidly avoided. In all cases of abortion where it is found necessary to use opium, (and there cannot be a more valuable agent) it ought to be used in large doses, not less than a drachm of the tincture, or what is much better, from two to three grains of crude opium, rubbed down with a little water or mucilage. Cold astringent lotions are recommended by some to the external parts, and enemas of cold water; but these are only to be considered as adjuncts: to quiet uterine action, and to reduce plethora, other means must accomplish. If, after the best directed efforts abortion will evidently occur, the treatment must be guided by circumstances; if the hæmorrhage is not extensive, little need be feared. When the embryo is ejected alone, and no flooding follows, or if it is trifling, a short time may be allowed for the uterus to throw off by its own efforts the placenta and membranes, but if flooding occurs, it will be as well to attempt their removal by the hand, and if this is found impracticable, a dose of ergot will sometimes effect the expulsion; a second dose of the ergot may be necessary, after an interval of ten or fifteen minutes. The mode of giving the ergot should always be in decoction both alike Div. of ergot to water ℥viii. boiled ten minutes, or to one half, the ergot being previously powdered. Of the four ounces left, two should be given, and the rest in fifteen minutes if required. Provided the preparation is a good one (now seldom found fit for use), *that is*, recently gathered, or within the year of its gathering, its action as a remedial agent will always be satisfactory, and materially improved by the addition of a little borax sod:; on the contrary, nine out of ten specimens now sold in shops are perfectly inert. Sometimes it is found, that the placenta and membranes are retained after the expulsion of the fœtus, in spite of every effort to remove them; in such cases are they to be left to natural efforts? it is true many have been, and have done well, the secundines having gradually discharged themselves by the process of putrefaction, but many others have suffered in the first stage from severe hæmorrhage, or subsequently from uterine plebetis. Therefore it is necessary in all cases, to try every means to clear the uterus of its contents, if possible. The French use a pair of long slender forceps, whilst British practitioners cannot reconcile this practice with the injury which may be inflicted on the

uterine organism. Some have recommended the introduction of the hand into the vagina with one or two (at most) fingers into the uterus. That this may be done in some few cases, is probable, and might succeed, but it is a plan that if recommended without great caution (under peculiar circumstances admissible only), great and irreparable danger might arise; it is evident, too, this plan could only be adopted before the putrefactive process had commenced, and before any irritative fever could arise. If abortion be accompanied with extensive flooding, there is but little chance of preventing the ovum from being ejected; therefore, if our attempts fail, as regards preventives, it is the duty of the practitioner to moderate the discharge as much as he can until the ovum is expelled. For this state of affairs, the plug has been recommended as the most direct mode of checking the hæmorrhage. The use of the plug requires great discrimination, and may prove most mischievous. In cases of internal hæmorrhage, it is totally inadmissible. It is true the plug has become very popular, and has a great number of enthusiastic advocates, but there are many who have no faith in it. It has no doubt succeeded in many cases where the hæmorrhage has not been very extensive, but perhaps those cases might have succeeded equally well without it. The sort of plug recommended is various. Dewees advises a sponge: others a silk handkerchief rolled up; others a ball of tow; others rags of any sort. If a plug is decided upon, we should advise the first thing (similar to the above) the practitioner lays his hand upon, as *the best* for the purpose. It is also advised by some, to fill the vagina by pieces severally introduced (without being previously rolled into a ball), the vagina to be thoroughly filled with the material. After the plug has remained six or eight hours, it must be withdrawn and another introduced. Whatever may be the opinions of the plug at the present time, it is evident that the improvements of the art of midwifery are only progressive, and some portions but very limitedly understood; if we are not much mistaken, half a century more will expose the absurdity, inefficiency, and impropriety of the plug practice, if not altogether condemn it as an abuse, anything but professional. Whilst the plug is applied, cold applications by lotions, and enemas, ought not to be neglected. Acetate of lead and sulphuric acid: internally have been given by some with advantage, and opium in small doses. (The latter is very questionable.) On removing the plug, an examination must be instituted; if the ovum is found descending and can be reached, it ought to be laid hold of and brought away; if it is beyond reach, it has been advised to renew the plug, and then excite the uterus to action by ergot. It appears singular that the advocates for the plug seem to have lost sight of the fact that when the vagina is packed full of plugging or coagula, between the plug and the os uteri, that it is utterly impossible for the ovum to escape from the uterine cavity, although it be separated and ready for ejection, and that most likely, it lies partly within the uterine cavity, and partly at the upper part of the vagina, it cannot descend further, in consequence of *the plugging*; now this position of matters is the *worst possible for continuing hæmorrhage*. The obstruction of a natural passage when nature evidently wants it free, for the expulsion of the ovum when separated, wants justification. There are yet cases still more extreme, and the patient brought by loss of blood to the verge of death. Under such circumstances Levret

advises warm water injected into the vagina and uterus. Dr. Dewees uses a wire crotchet, and, as stated before, some French accoucheurs use long and slender forceps. In the early months, when the uterus is small, the use of any instrument is objectionable; if manual interference is decided upon, the accoucheur's finger, as recommended by Wainwright, of Liverpool, is most likely to effect the object with the least prospect of mischief; this mode, however, is not without great danger, and ought not to be resorted to, except in desperate cases, and then, with great caution and gentleness. Dr. Robt. Lee in his *Clinical Midwifery*, page 189, states "*that in threatened abortion the condition of the os and cervix uteri should be ascertained by examination; and if the orifice is open, and the neck shortened, and the ovum felt pressing into the opening, no good can result from attempting to prevent expulsion of the ovum by anodynes. It is better merely to moderate the discharge, and leave the case to nature.*" Dr. Radford, of Manchester, declared a similar opinion to Dr. Robt. Lee. See page 285 Ranking's *Retrospect of Medical Science* for July, 1846. Now we yield to no one in the high opinion we entertain of Dr. Radford as an experienced accoucheur, but on this point we beg to differ with him and Dr. Lee. We believe the very act of a vaginal examination, would in many irritable females bring on abortion which without it might never have occurred. Dr. R. Lee admits almost in the same page of his work, that a sponge present in the vagina will often induce premature labour. Every person conversant in midwifery, knows from every day observation, that the operation of touching will often bring on violent pains; so much so, that accoucheurs having taken an examination, and finding little progress made, and the previous account being that the pains were slack and inefficient, under such circumstances have left the case, when, almost immediately after their back has been turned, violent pains have ensued, and the labour completed without assistance: this is a common case with young practitioners, the more experienced invariably wait to see what effect the examination produces. If, under such circumstances, the vaginal examination is productive of irritation, how much more likely is it to be so in a case of abortion; when the uterus is in an extremely irritable state, most assuredly the abortive process will be completed. In a case where there was but a slender chance of the ovum being retained by preventive means, that chance is, by a vaginal examination utterly thrown away; at least that is our opinion. In support of this, we recollect some few cases in our practice where vaginal examinations had been instituted by others, where the os uteri was partially opened, where the cervix was shortened, and where considerable hæmorrhage had occurred, and yet by judicious preventive means, the cases were checked, and subsequent full periods of utero-gestation arrived at. We do not say that the examination will always produce mischievous irritation, because the cases just mentioned disprove it; but we have seen many others, where such means have immediately proved mischievous, and as a general rule, it is extremely likely to do so. Dr. Meigs strongly recommends an injection of forty drops of laudanum in a small quantity of fluid into the rectum as a preventive. It appears reasonable, and is worth the trial, but we have not sufficient experience recorded to speak confidently upon it.

**Abortion, After Treatment of.**—It may be laid down as a general rule, that

cases of abortion require as much care after, and for as long a period after as labour, indeed some insist that the case is one of greater danger, and consequently requires greater care afterwards, and this is not far off the proper view of such cases. All the diseases of the puerperal state, are as likely to occur after abortion as after premature, and full period labour. It is imperative that the patient should rest in bed, for some time after abortion, as in labour, and return as gradually to her usual occupations. The abdomen should be carefully bandaged; the lochia and bowels attended to; and the diet simple, nourishing, but free from stimulants; a quiet mind, and free from exertion of any kind.

**Abortion, Prophylactic Treatment of.**—If any cause can be discovered, it must if possible, be removed. If debility of constitution be present, every means should be adopted to improve the tone and strength of the system. If plethora be the suspected cause, then occasional bleeding; the bowels should be carefully regulated, diet light and nutritious, gentle exercise, so as not to fatigue. If great debility, the horizontal position for an hour in the middle of the forenoon, and again in the afternoon. In fact, the error existing corrected, if possible, by strengthening the weakly by tonics, and reducing the over stout. If the patient have previously aborted, the greatest care must be taken about the same period of pregnancy, and the means according to circumstances above suggested. Above all things, when the case threatens, *rest must be rigidly enforced*. Whenever the cold bath, or cold water sponging is used as a tonic, in cases of this description, care must be taken to guard against the shock. And lastly, one of the best means to check repeated abortions, is to enforce rest for the uterus, by separating the parties from their husbands for some months, which means alone, will often restore this organ to its proper tone, and enable it afterwards to retain the ovum for the whole period of gestation. It remains for us to point out the principal writers on this subject, of course they are very numerous, and it will be impossible to mention all or adhere to any chronological order. Hippocrates. Avicenna, 1519. Gaurichs, L. De conceptu natorum et partu septimestri. Venet. 4. 1533. Raynalde's Byrthe of Mankind, 1540. Aræteus, 1554. Ruffi Ephesii, 1556. Rueff's Expert Midwife, 1637. Langii, Chr. De abortu considerationes. Lips. 1644. Bonaciolus, 1650. Sever Pinæus. 1650. Hervey's Exercitat. Anatomices. 1637. St. Germain, Ch. Traité de fausses couches. Paris. 1655. Zorun, B. De abortu. Alt. 1663. Pilling, M. Z. et Friderici, J. A. Diss. de ordine et method. cognosc. et per curationem præservandi abortum. Jen. 1665. Marold, J. O. Diss. de abortu per vomitum rejecto. Altorf. 1669. Sulzberger, S. R., resp. Crusius. De abortu. Lips. 1669. Waxmuth, J. G. De abortu. L. B. 1670. Grising. Diss. de partu septimestri. Viteb. 1670. Fasch, A. H. resp. Heidenreich, F. R. De ordine et methodo cognoscendi et per curationem præservandi abortum. Jen. 1677. Vesti, J., resp. Habermas. De abortu. Erf. 1690. Mezler, J. C. Diss. de abortu. Erford. 1693. Albin, B., resp. Berger, J. G. a. De abortu. Francof. ad. V. 1697. Fick, J. J., resp. Witte, H. T. De abortu epid. Jen. 1697. Vater, Chr., resp. Pezold. C. De abortu. Vit. 1698. Pechey, 1698. Compleat Midwife's Practice, 1698. Mayernia, 1698. Vesti. J., resp. Appelius J. J. D. de abortu. Erford.

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**Abortion, Legal Medicine.**—Is defined, premature labour, provoked and accomplished with a criminal intent. A woman is guilty when she procures means to cause abortion. Whatever these may be, she is guilty when she consents to their employment only. The individual who procures such means is as guilty as the woman who employs them, and incurs the same punishment. If the person who procures them is a physician, surgeon, or apothecary,

\* In the article "Abortion," we have stated that the remarks on Diagnosis, by Dr. Radford, are taken from Dr. Ranking's Retrospect of Medical Sciences from July to December, 1845. We should have stated also that the original remarks are to be found in *Proc. Med. and Surg. Journal*, September 17, Page 578, 1845, and again in the *British Record*, No. 5, Page 80-81, 1845.—[Ed.]

ary, he is deemed still more culpable, and is punished equally severely. From this it is evident that a medical practitioner may be legally required to give evidence respecting abortion. There are two kinds of questions to be solved, to ascertain whether the individual be guilty or not; namely whether *abortion has taken place*, and whether the same has been provoked. Secondly, when abortion has taken place, whether it has been accomplished with a criminal intent. A jury cannot decide on these questions without the assistance of medical men. The law supposes the following questions:—Has the female aborted? Has it been provoked, or did it occur from natural causes? Accidental abortion, or the induction of premature labour in deformity of the pelvis, for the purpose of saving the lives of the mother or infant, cannot be comprised among those cases which are punishable by law. To ascertain if abortion has taken place, two species of examination are necessary; *the first* on the body of the fetus; *the second* on the body of the suspected female. In the majority of cases, the examination of the body of the fetus does not lead to anything conclusive, because it seldom exhibits marks of violence—and because the means employed have principally acted on the system of the mother. Sometimes the head of the fetus has been injured in the uterus by instruments, and then may present marks of injury. It is to be determined, also, whether such injuries have caused death, or have been inflicted during the life, or after the death, of the fetus. These questions are most difficult of solution, for the membranes may be ruptured intentionally to procure abortion, and such, being ruptured, will inevitably be followed by abortion, yet no mark of violence will be observed on the fetus. Positive evidence can only be given where there are decided marks of injury on the body of the child, provided it can be proved that the wounds were inflicted before death. It is necessary to determine the age of the fetus. After the second or third month, it is scarcely possible to mistake a clot of blood for an embryo: we must be careful as to decision before this period. M. Marc advises the aborted mass to be examined in water, and by means of frequent washings endeavour to obtain an embryo in an isolated state. To constitute criminal abortion it is positively necessary to prove there is a fetus. The examination of a female who has been delivered before, and who has aborted some days, can lead to no positive conclusion. The symptoms of abortion are similar to those of labour, and the signs of delivery less remarkable; it is therefore much more difficult to decide if a female has previously aborted, than if she has previously been delivered under the common occurrences of natural labour, at the full period of utero-gestation. As to the latter part, namely, proofs of delivery at or near the full period of gestation, it will be necessary to dwell more particularly upon, in the article *Infanticide*. In abortion it is necessary to examine the abdomen, noting its development, sensibility on pressure, state of the skin, volume, and painful state of the uterus; secondly, the state of the external genital organs, the mucous membrane of the vagina, and neck of the uterus, in their dimensions, aspect, and sensibility, comparative with their normal state. When there is discharge, we must determine whether it be the effect of lochia, abortion, accidental inflammation, or even some habitual state of the parts. Modesty and caution are necessary in instituting such examinations. The mamma may be much developed, and sensitive; the secretion of milk

may occur, if abortion has occurred at an advanced period of pregnancy. It is only by the most careful and rigid examination of all the causes which produce abortion, naturally or accidentally, that presumptive evidence can be established. The measures for producing abortion are those which injure the envelope of the fetus, or the fetus itself; such powerful agents introduced into the uterus, or otherwise, to excite its contraction and consequent expulsion of the fetus, to which is added, violence on the abdomen externally, depletion, pediluvia, emetics, drastic purgatives, and emmenagogues, &c. Of all these agents, there are only two which can leave traces behind; first, instruments carried into the uterus; and second, violence applied to the abdomen. We have been favoured with the following summary of the law of criminal abortion by our esteemed friend, F. Hobler, Esq., Solicitor, London, which we add to our article, to render it as complete as possible for general reference.

**Abortion.—1. Procuring when quick with Child.**—The 9th George 4. C. 31. S. 13 enacts: "That if any person with intent to procure the miscarriage of any woman, then being quick with child, unlawfully and maliciously, shall administer to her, or cause to be taken by her, any poison or other noxious thing, or shall use any instrument, or other means whatever, with the like intent; every such offender, and every person counselling, aiding, or abetting, such offender, shall be guilty of felony, and being convicted thereof, shall suffer death as a felon." A woman is not to be considered quick with child, until she has felt it alive, and move within her; *Rex v. Phillips*, 3, cap. 77; which happens differently with different women, but usually about the fifteenth or sixteenth week after conception. The poison or noxious thing must be actually taken by, or applied to, the woman; *Rex v. Cadman*; *Ryan and Moody*, Crown Cases, 114; and administered with the intent to procure miscarriage. Whether it would in fact produce that effect seems to be immaterial; but whether it should appear that the drug administered was a "poison" or "noxious thing" or whether the words "other means whatever" render this unnecessary, seems doubtful. See Archbold Crown Law, 336, 4th ed. 1, Chitty-Burn, 10.

**EVIDENCE.**—The being quick with child, the actual administration of the means, and the intent, must be proved. Where a poisoned cake was given to the prosecutrix, who put it into her mouth, but spit it out without swallowing any, it was holden that a mere delivery was not an administration within the Statute. *Rex v. Cadman*, supra; See *Rex v. Harley*, 4, Carrington and Payne, 460. Accessories before the fact are made liable as principals.—

**2. Procuring Abortion when not quick with Child.**—The 9th Geo. 4, c. 31. S. 13. (second clause) enacts:—"That if any person with intent to procure the miscarriage of any woman not being, or not being proved to be, then quick with child, unlawfully and maliciously shall administer to her or cause to be taken by her any medicine or other thing, or shall use any instrument or other means whatever with the like intent, every such offender and every person counselling, aiding or abetting such offender, shall be guilty of Felony, and being convicted thereof, shall be liable at the discretion of the court to be transported beyond the seas for any term not exceeding fourteen years, or less than seven years, or to be imprisoned with, or without hard labour in the common gaol or house of correction, for any term not exceeding three years."



and if a male, to be once, twice, or thrice, publicly or privately whipped (if the court shall so think fit) in addition to such imprisonment. **EVIDENCE.** Prove the administration to the woman of a medicine or some drug, or the use of an instrument (according to the fact) with intent to procure miscarriage. Whether it be calculated to produce that effect or not is immaterial; *Rex v. Phillips*, 3, Campbell, 74. Where the indictment charges the defendant with having administered a decoction, and it was proved to be an infusion, it was held sufficient. It is not necessary to prove that the woman was not quick with child, but if it appear that she was so at the time, the prisoner must be acquitted. So also if it appear that she was not with child at all at the time; *Rex v. Seuddes, Ryan and Moody*, 216, 3. Carrington and Payne, 605. Accessories before the fact are made liable as principals. **P. III.**

**Abortive.**—A term applied to a fetus, *fetus abortivus*, when it is expelled before the period of viability—more strictly applied to medicines and measures given with the intent to procure abortion. It is necessary to become acquainted with such means, as they may be legitimately used in deformed pelvis, tumours of the pelvic cavity, &c. Again, they should be known to be avoided during pregnancy, and again, to facilitate detection when improperly resorted to for criminal purposes. It is necessary to state, that additional information will be found under the heads, *Infanticide*, and *Premature Labour*. *Abortives* may be divided into five classes, first, drastic purgatives, second, emmenagogues, third, bleeding, fourth, outward violence, and injury per vaginam, all of which are supposed capable of causing abortion. First, *drastic purgatives and emmenagogues* are very irritating medicines, and which commonly act by exciting irritation in the intestinal canal, which may be transmitted, by sympathy, to the uterus, either by a determination of blood to that organ, or by general irritative fever: medicines, acting thus indirectly, must either cause great irritation on the organs to which they are directly applied, or fall in their object. Thus every day's experience teaches us that remedies of this class given as abortives, such as aloes, rhubarb, senné, &c., are often very inefficient, and at all times very uncertain, remedies. Nor does the ergot of rye appear any more certain, *that is*, seldom succeeding, unless there is a predisposition to abort. Women have frequently destroyed themselves by taking medicines to procure abortion, without being able to effect their object. Still it is necessary to be cautious in giving such medicines when pregnancy is suspected, for although it is remarkable how ineffectual medicines are in procuring abortion under some circumstances, yet at other times the slightest dose might succeed. *Bleeding* is supposed capable of effecting abortion, but it has no more specific power than other remedies; indeed it is often legitimately used to prevent its occurrence in plethoric habits. Bleeding may be resorted to during pregnancy where there are proper indications, but it is advisable not to bleed to syncope during pregnancy. *External violence*, strong and sudden pressure over the uterine region, contusions of the hypogastrium, lumbar, or sacral regions, may be considered as causes of abortion. The danger of such accidents to the mother, as well as the fetus, must be apparent. A gradual and long-continued pressure, though extreme, does not often effect abortion. Even violent shocks, leaps, &c., have failed, as we have already shewn, in effecting the expulsion of the fetus, and only succeed where there

is a predisposition. *Puncturing the membranes* is after all the only true abortive we have at command. This mode is perhaps too often practised for what are termed legitimate objects, it is therefore necessary to warn the junior practitioner that it is an operation that might be followed by serious consequences, often menacing the life of the mother. Where the os and cervix uteri are firmly closed it is difficult to puncture the membranes without the liability of injuring the uterine structures. There are many dangers attendant on abortion, when accomplished as we have shewn in the article *Abortion*. Puncturing the membranes has been known to fail where the stiletto was so small that the waters did not escape after the puncture. Perhaps, as a general rule, the necessity of provoking abortion ought not to be practised on the responsibility of one medical man; two at least should sanction its adoption.

*Abruptio*.—(Abrumpere, to tear asunder). *Abruptio*, f. L.—*Abbrechung* abreissing G.—*Abruptio* F. When applied in reference to obstetrics, *abruption*, or separation of the head from the body of the child during labour, is either an accidental misfortune, or produced intentionally by artificial means. The former is the case, when, after turning, or in foot presentation, either in consequence of rough pulling upon the neck, or of an already advanced state of decomposition, the body of the child pulls off, and the head remains behind. This untoward event will happen the more readily when the head is unusually large, so as to offer considerable difficulty in its extraction; when it presents in a bad position, the greater diameter of the head not corresponding to the greater diameter of the pelvis; or when it is so placed in relation to the body, that it enters the pelvis by its base. If, under such circumstances, a great degree of force is employed, without regard to the direction in which it is used, the cervical vertebrae and muscles may suddenly give way, and if the accoucheur be not prepared for such an accident, a complete separation may take place. When such an unfortunate circumstance has occurred, and in former times it did frequently occur, nature will in many instances give a better direction to the head, and afterwards expel it. But in other cases, especially where there is a disproportion between the head and the pelvis, nature will prove incompetent to expel the head. We must, therefore, never rely implicitly upon the powers of nature, for even under apparently favourable conditions, the intervention of art may be required; the retention of the head for but a short time may also be attended with various dangerous symptoms, coming on insidiously, namely, internal hæmorrhage, and inflammation of the genital organs; and since, moreover, there are no circumstances here present to contra-indicate artificial aid, we cannot agree either with those whose advice is to leave the expulsion of the head entirely to nature, or with those who, with Desormeaux, merely assist the efforts of nature by altering the position of the head, and render active assistance only when they perceive that longer delay is useless or injurious. We recommend, in every case, the extraction of the retained head, which is not of course to be effected by mere force, but also by appropriate management of the head. As a rule it will be sufficient to introduce the hand to grasp the head, placing the middle finger in the foramen ovale, and the thumb in the mouth, and drawing the head down by a rotatory motion through the pelvis; in this proceeding we should, as much as possible, follow the operation of the labour pains, for these give

the most appropriate position to the head in its passage through the pelvis. If these means fail, owing to our not being able to grasp the head sufficiently firmly, we must have recourse to the crotchet, inserting it into the frontal sinuses, orbit, nostril, or fontanelles, &c., and thus extract the head. This operation is not always free from difficulty; the instrument may not penetrate very deeply, so that it slips; the head may turn on its axis without descending, from the pressure being too much on one side. If the head be very large, or the pelvis narrow, we shall not be able to extract the head in this way, and must lessen it by perforation. If it be firmly fixed in the pelvis, we can pierce it with the perforator, allow the brain to escape, and remove it in portions with the bone nippers; it may, however, retreat on our applying the perforator, and therefore it is right to fix it first with the crotchet, that perforation may be rendered practicable. Many different instruments were recommended for extracting a retained head by the older accoucheurs, but they were most of them complicated, and not only useless, but calculated to embarrass greatly the operation; indeed they possess more value in an historical than in a practical point of view. The application of the forceps would seem to be the simplest proceeding; but although there can be no objection to the use of them by way of trial, they, in very few instances prove successful. If the head be high and very moveable, the forceps cannot be applied at all; but even if the blades of the forceps are carried up to the sides of the head, it may easily elude their grasp, and oblige us to relinquish the operation. If the head and pelvis are very disproportionate in size, although the forceps may grasp the head properly, we yet fail in extracting it because the forceps cannot reduce its size sufficiently. The separating the body from the head intentionally, as a means of accelerating parturition, will be discussed more fully in the article *Decapitation*. Separation of the child's head, in head presentation, the body remaining behind, is a very rare occurrence, and can scarcely ever happen even under rough management, unless there be some abnormal condition of the body. The treatment in such a case varies according to the position in which the torn end of the body is situated. If it be still high up in the pelvis, there is a possibility of its injuring the vagina in its passage downwards, and therefore it will be right to perform version; but if the child is already low down, and extraction can be practised successfully, this should be done according to prescribed rules, by following which, the vagina will always be secure from injury.—*Vide Decapitation*. On this subject the reader may consult, with advantage, the works of Hippocrates, Abulcasis, Pareus, Mauriceau, Gregoire, Levrot, Petit, Grauen, Baoquic, Burton, Puisseau, Schurer, Cruikshank, Leake, Danavia, Assalini, Perret, Schreger, Baudelocque, Desormeaux, Smellie, J. C. Muller, Siebold's Journal, B. 15. Hft. 1., 1835. and many others. (*This article translated from Busch and Moser, by E. Copeman, M. D., Norwich.*)

**Abcess.**—**Abcessus** (from *abscedere*.) *Apostema* L. *ἀποστήμα*. *Abcès* F. *eiterbeule*, *f.*, *geschwür*, *n.*, *G.*—A collection of pus in a cavity formed by morbid process, with or without a tumour. An abscess is called *acute* when it succeeds acute inflammation—*chronic* when it follows chronic affections or *suppura*, &c.—*idiopathic* when it occupies the site of the malady causing it—*symptomatic* when it appears at a different part. The name of an abscess



depends on its locality and the tissues concerned. The term *abscess* has been used since the time of Aurelius Celsus. It is necessary to define *abscess* from an effusion of pus into a cavity already formed; for instance, an abscess forms a cavity for itself by morbid action, and the destruction of surrounding parts, but when pus is found in a natural cavity it is termed an effusion; as it is the result of an abscess discharging itself spontaneously from its own self-formed cavity, into the nearest natural receptacle, at the same time every step is only one nearer to the outer limits of the body from which its object is eventually to escape. According to the degrees of intensity of the inflammation, and the different membranes affected, is the greater or less rapidity with which the purulent collection is formed, and the quantity and quality of the pus depend on the same causes. Inflammation is the common origin of all abscesses. It is necessary for the practitioner to know the various modifications of abscesses which depend on the severity of the previously existing inflammation, the nature of the organs which are the seat, and also whether the pus is formed on the spot where it was generated and accumulated, or whether it has previously existed in some other situation, and subsequently burrowed to its present position. It is not our province to enter into the anatomical, pathological, and other characteristics of the formation &c. of abscess, for which we refer the reader to works appropriated to surgical matters, (Cooper's Surgical Dict., &c.) We shall confine ourselves to a few particulars of abscesses that are connected with practical obstetrics, or with those particularly noticed in women or children, the first and what is most frequently met with is

**Abscess of the Mamme.**—Induration and inflammation of the mamme are circumstances of frequent occurrence after delivery. The mamme assumes this position frequently from engorgement of milk in consequence of cracked or excoriated nipples; and the timidity attendant upon applying the child to them so effectually, as to empty them of milk from time to time, causes the pent-up secretion of milk to prove a source of irritation which ends in inflammation and suppuration. The same circumstances may also occur from exposure to cold, external injury, improper diet, mental excitement, &c.; and the same may also arise spontaneously, that is, at least without any apparent cause. An abscess may take place at any period of suckling, or even after weaning. It is however most likely to occur during the first month, and in the earlier, rather than in the latter part of it. At first a hardened mass is felt in the breast, painful when pressed upon, but without any redness of the integuments; as the inflammation progresses, the integuments become red, and tender to the touch, and pains shooting through the breast, accompanied with throbbing, rigors, rapid pulse, pain in the head, thirst, &c., varying in degree according to the extent of the parts implicated. If the abscess is forming near the surface, that is, in the integuments, cellular substance, &c., suppuration rapidly progresses, and an opening takes place near the root of the nipple, generally within the limit of the areola; but where the deeper glands are implicated, wholly or in part, the abscess is slow in maturing, and occupies considerable time in coming to the surface, and when the suppuration is completed, the healing process is also slow. The treatment of mammary abscess varies considerably; some advise bleeding from the arm, others cold evaporating lotions, neither of which in our opinion are advisable.

By the first there is a possibility, if not a probability, of entirely checking the secretion of milk afterwards in either breast; by the latter we effect little good in any case, and in most, none at all, besides losing much valuable time that would be better employed by adopting other means. We at all times prefer a warm emollient fomentation, such as a decoction of poppy heads, &c., with a little hog's lard melted into it steadily and perseveringly applied, as hot as can be borne, to be succeeded by a large linseed-meal poultice, with plenty of grease in it. One great error in applying these remedies is the losing sight of the weight added to the breast, which should always be well supported by a broad bandage, so placed as to prevent the breast from hanging pendulous; even without poultices and fomentations, the breast itself is too heavy to support its own weight, and should, therefore, be supported in a similar manner. The introduction of the Spongio and Permeo piline into practice is a considerable improvement, for by it, every advantage of a poultice is gained, freed from the weight and dirtiness of the latter application. Poultices should be renewed every six hours, and a hot fomentation between each application. The bowels at the same time should be well attended to, a brisk purge of calomel and jalap, followed by a draught of senna and magnesia sulphatis, followed again by saline diaphoretics, and, if really necessary, rest procured by an occasional anodyne. In the treatment of all mammary abscesses, two things are imperatively necessary to be observed. First: The proper treatment of the abscess itself; and second, a check to be given to the secretion of milk, which latter, if allowed to go on, will only tend to the formation of new abscesses, and thus the breast may suppurate for a considerable time without any prospect of its cessation; whereas, if attention be directed to lessen the secretion of milk, the abscess will disappear almost immediately after the first mature suppuration. And this may be done most effectually by the exhibition of hydragogus purgatives—by Magnes. sulph. ʒiiss. Infusi. Ros. Can. Co. f ʒviii. Acid. Sulph. Dil. f ʒi. M. Capt. f ʒiss. ter. die, to which may be added, if there is much debility, a little quinine (grs. x.); after months of suffering, improvement takes place from the moment a liquid evacuation is procured from the bowels. If there is much pain and tension, twelve or eighteen leeches have been recommended, which may, according to circumstances, be repeated even to a third time. But our own experience is decidedly against leeches; we have often applied them, and seen them applied, but never with such uniform advantage as to warrant their recommendation, except under peculiar circumstances. It is difficult to determine whether a mammary abscess will be dispersed or suppurate in the early stages, as there is often considerable uncertainty. An abscess of this kind should always be allowed to mature well, before any attempt is made to open with a lancet. It is always best to see the pus point well to the surface, else secondary suppurations will occur of the most tedious character. Indeed, it is our opinion, better in almost all cases to allow the pus to escape of itself without the assistance of the lancet—such cases will generally do best; sometimes, however, it must be admitted that, where the constitutional disturbance is very severe, the abscess very deep, and slow in its progress, it will be a good practice and a saving of time to use the lancet, always selecting the most prominent point for the incision, where the fluctuation is most distinct; and

must be taken to avoid the character of a *puncture*; the opening should be made boldly and freely, the size in proportion to its depth; but it is always objectionable to cut through a very thick covering—*rather wait a little longer*. After an abscess is discharged, the poultices must be continued, and the same attention must be paid to the bowels, &c.; when such cases are properly managed they heal without much trouble. Sometimes, however, there will be a succession of abscesses, causing much suffering; opium and quinine are sometimes necessary to allay the irritability and support the system; sometimes the several abscesses communicate with each other by sinusses, and are very troublesome. An injection of rose water, with two or three drops of sulphuric acid to the ounce, will be found useful in the healing process—the same may be applied on the surface on a fold of lint. During the early stages of these cases, some practitioners have recommended volatile liniment to be rubbed on the breast, but it requires only a very small share of common sense to be exercised to see the absurdity of such an application; the mere motion of the breast whilst rubbing, independent of the stimulating of the friction and the material of the liniment, is most unwise in a part already so much excited. We may also state that, not unfrequently, the bites of a number of leeches do more mischief than the good derived from the amount of blood abstracted. In all cases the horizontal position ought to be enforced as much as possible, as it prevents the weight of the breast from hanging, thereby sparing much suffering. It rarely happens that a breast having suppurated, will so far recover as to afford suckling material until the succeeding pregnancy; some few become entirely extinct as a secreting organ. When one breast has suppurated, there does not appear much difficulty in the other affording a full and sufficient supply to the child, and without any ill consequences. It is, however, very necessary to watch the breast which has once suppurated in succeeding pregnancies, and direct attention as much as possible to preventive means, such as not allowing the milk to accumulate within it, attention to the bowels, &c., in time. It sometimes happens after extensive suppurations that the system is much prostrated—so much so, that a more generous diet is to be recommended, with a little wine or porter, and if restless, a couple of pills of equal parts of ext. hyoscyami and extr. gentiane should be given at bed time. On this subject the reader will do well to consult Dr. Robert Lee's *Lectures on the Theory and Practice of Midwifery*, London, 1844, and also the 6th vol. of the *Library of Medicine*—article, *Midwifery*, by E. Rigby, M.D., London, 1841.—Drs. Coley, Evanson, Mannsell, &c. &c.

**Abscess of the Pelvic Joints.**—On this subject Dr. Ryan in his excellent *Manual of Midwifery*, states, Inflammation of the pubic symphysis, sometimes occurs, but it is often concealed from motives of delicacy until suppuration has happened. If allowed to proceed there will be ulceration of the joint, separation of the bones, and lameness for months, or even years. When discovered, leeches ought to be applied to the mons veneris, to be succeeded by cold lotions, purgatives, and diaphoretics. If an abscess be formed, care must be taken to let out the matter as soon as possible. If a separation of the ossa pubes takes place in consequence of an abscess, a tight bandage round the pelvis, so as to keep the separate parts in perfect apposition must be worn until the parts are

again united, which may be six, twelve, or even eighteen months, and during which time the horizontal position must be adhered to. The same treatment must be observed, if a similar accident occurs to the sacro-iliac symphyses.

**Abscess of the Sacro Coccygeal Joint.**—In women of advanced age, in first pregnancies, this joint is apt to become luxated, inflammation and abscess may occur, to prevent which, leeches and lotions must be resorted to, as in the treatment of the abscesses of the pubic symphysis. If suppuration occurs, and the coccyx separates from the sacrum, care should be taken to prevent the former from uniting with the latter at right angles, as in such case, the coccyx must again be broken off at the succeeding labour. This must be accomplished by placing the separated bones in perfect apposition, by introducing the index finger into the rectum, and the thumb over the part externally. In some cases the coccyx has been known to slough away, but this is not very likely under proper management. When an abscess is formed, it may be opened through the vagina, or rectum, according to its most prominent part. Dr. Ryan mentions a female that suffered twice from sacro coccygeal abscess, and singularly enough, the mother of the same female had had a similar one. The sacro coccygeal joint mischief, may be diagnosed from the other pelvic joints, by the perfect inability to sit on a common chair.

**Abscess between the Vagina and Rectum.**—This is a complaint of occasional occurrence, and may take place at any period of life. It is often the result of violence, such as falls, blows, kicks, and it has also arisen from the passing of the child's head along the vagina in hard labour, still there are cases which cannot be traced to any satisfactory cause. Dr. Churchill mentions a case after an attack of acute uterine leucorrhœa. Inflammation of neighbouring parts may so extend, as to implicate the parts under consideration. A case of this kind is mentioned by Dr. Davis, in his *obstetric medicine*, vol. 1. p. 145, and by Chomel in the *Lancette Française*, June, 1838. Whatever be the case, there is severe pain in the part, a sense of weight, great tension, constant bearing down, particularly in the upright or sitting position, and in the act of passing a motion; and on making a vaginal examination, a tumour is felt between the vagina and rectum or a little inclining to one side, great tenderness to the touch, and the parts feel of a high temperature. A curious case is related by M. Louis, at the Hotel Dieu, Nov., 1837, of a fatal case of abscess, which after death, proved to be one of vagino-rectal character. The inflammation runs rapidly into suppuration in these parts, often the abscess will be matured in 48 hours, after which the painful symptoms considerably abate, but others are developed. The tumour is now softened, and fluctuation may be detected, and an apex discovered either in the vagina or rectum. If not interfered with, an opening is soon made into vagina or the rectum, through which the pus escapes, which is extremely fetid. Sometimes the abscess does not open at the apex we expected, but burrows to some distant part, and fistulous openings may sometimes be found outside the orifice of the vagina, as well as in its walls, or in the walls of the rectum. After the pus is discharged, the tumour subsides, and if the sac is not obliterated, the discharge may go on for a considerable time. Occasionally the orifice has been known to close, and the sac to refill,



which secondary abscess, must be treated as before, but with more caution, as to its termination. Sir C. Clarke relates cases of this kind; where there is a disposition to form fistulous sinuses, it is more than probable, that the tone of the constitution wants improving. During the early stages of inflammation there is considerable amount of fever, weariness, aching limbs, head-ache, thirst, quick pulse, restlessness, and irritability. Rigors point out the formation of pus, and then the other symptoms subside, followed by debility and exhaustion, if the discharge be continued any length of time, and sometimes irritative fever. All these points are of a more serious character if they follow labour. In some cases there is a sympathetic enlargement of the inguinal glands, but which subsides after the abscess is terminated. It is necessary to diagnose abscess from some other diseases. The sensation of weight and bearing down, might lead to the suspicion of prolapse of the uterus or vagina, but on examination the uterus is found in its proper position, and the vagina normal with the exception of a tumour, hard, tender, and perhaps fluctuating, and which cannot easily be mistaken for a lodgment of fecal matter in the rectum, particularly if the precaution is taken of administering an enema before the examination. An abscess may sometimes be confounded with tumours of other descriptions in the parts, but the acute symptoms, and rapid progress, will soon identify the abscess. As regards the treatment, leeches, fomentations, to the vulvæ and perineum, saline purgatives, &c. If pus is likely to be the result, fomentations, poultices, injections of warm water into the vagina, and every means which is likely to facilitate the suppuration. When matter is formed, the abscess must be punctured at the lowest point, and the pus completely evacuated, to prevent its burrowing to some other situation. If the orifice be sufficiently large, the abscess heals generally favourably. The vaginal passage should be frequently washed out with a syringe, and it will be necessary to introduce a piece of sponge, to compress the walls of the sac, and prevent the accumulation of fresh pus. If fistulas be formed, they must be treated as fistulas generally. The bowels should always be well attended to, and if this disease has been of long continuance, and is telling upon the constitution, tonic medicine and a generous diet will be necessary. The reader may consult with advantage, Churchill, on the Diseases of Females—Dr. Davis's *Obstetric Medicine*—Chomel—Louis—Sir C. Clarke—Dr. Ramsbottom's *midwifery*—Dr. Robert Lee's *Lectures*—and Dr. Ryan's *Manual*.

**Abscess of the Pelvis.**—Mr. Joseph Bell, of Glasgow, in a communication to the *London Medical Gazette*, Dec. 1845, p. 1410, gives a detailed account of six cases of his own; and others of Sir C. Clarke, &c., described as "*inflammation of the mucous membrane terminating in the secretion of pus.*" Mr. Bell states his conviction beyond doubt, that many of the cases so described were pelvic abscesses, not at all involving the uterus. In the first and third cases of Mr. Bell, the abscesses discharged themselves through the rectum, the second through the vagina. These abscesses are occasionally accompanied by a hard tumour or hardness in the hypogastric or iliac regions, but this is not always the case. The fourth case pointed at the crural ring in front of the femoral vessels. The fifth presented behind the hip joint. The other cases

were errors of diagnosis, and treated for uterine peritonitis until detected by vaginal examination; the sixth case discharged from a puncture in the vagina. All the cases did well.—See Dr. Ranking's Retrospect, Vol. 8rd., June, 1846: Dr. P. H. Ramsbottom, speaking of pelvic abscess, says, "Abscesses occasionally form in the pelvis during pregnancy, and in this case, there would be decided fluctuation present. An abscess might be distinguished from a dropsical ovary by its situation, perhaps its excessive tenderness on pressure, and its formation having been preceded and accompanied by symptoms of local inflammation, and also indications of suppurative action. After all, says he, an error in diagnosis would be of little consequence, since the treatment employed in the two cases must be essentially and positively the same. There could be no hesitation in puncturing such a swelling through the vagina, and letting out the pus. The difficulty would then be over, and the head would meet probably pass."

**Abscess of the Ovaries.**—The formation of pus is a frequent termination of ovaritis, both acute and chronic. An example of this may be found in the *Edin. Med. and Surg. Journ.*, Vol. xvi. p. 867, and in the work of Boivin and Duges on Diseases of the Uterus, page 491, this remark occurs, "Abscess is, sometimes, indeed, the only result of inflammation induced in a steatomatous cyst, as in dropsy of the ovary. There are cases in which these two diseases constitute but one mixed affection, whatever may have been its original character, in consequence of the inflamed dropsical cyst being thickened, and its contents being almost entirely changed into pus; or from a real abscess having gradually increased, and transformed the ovary into a cyst." Again, in Hooper's Morbid Anatomy of the Human Uterus, p. 2, states, the ovaries, like the substance of the uterus, seldom furnish any trace of inflammation having existed in their substance, unless dropsy, and some other organic diseases may be so considered. I have met with only two instances of abscess, the one was the size of a child's head at birth; the other not larger than an orange. There was in these nothing different from common abscess. The whole of the internal substance of the ovaries was gone, and the walls were formed of a thick and rather ligamentous cyst, covered by the peritoneum. The reader may also refer to the case of Cooke, in the *Medical Gazette*, Jan. 17th, 1840. After acute ovaritis the pus is generally more diffused throughout the substance, as stated by Cruveilhier, *Anat. Path.* livr. 13. One of the largest abscesses of the ovary on record up to 1839, was that mentioned by M. Andral, where the sac contained twenty pints of pus. Much light however, has been thrown upon this subject by the operations of ourself (the editor) in 1839, and subsequently, for the extirpation of diseased ovaries, by the large abdominal incision. The whole of this immensely interesting question in all its bearings has been reserved for the article *Ovariectomy* of this work, when all the operations with their results will be laid before the reader without the slightest reserve. As our experience on ovarian disease has far exceeded that of all previous writers put together, and being the first to practice this operation in England, the public may reasonably expect we shall enter into the question in the fullest manner, when will be detailed the results of a large number of operations, with observations on diagnosis, deduced from the examination of some hundreds of cases. It will also be our pride to

prove that by our own individual exertions the operation of ovariectomy now become a legitimate operation of surgical science, the statistics of which will shortly put to the blush the carping crew of hen-improvers of the profession, who tried in vain to put down *this*, one of the greatest improvements of modern surgery, and which was anticipated 25 years previously by that acute observer and philosophic reasoner, Dr. James Blundell. In reference to abscesses, three or four of those extirpated by us, have contained pus in some of their cavities, in one case not less than twenty pints, in another fourteen or fifteen, whilst the other cysts in the same ovary, contained the usual contents of ovarian sacs, which will be spoken of under the head *Ovariectomy*. Portal speaks of suppurated ovaria as large as an infant's head. In Dr. Churchill's Atlas, pl. 34, G., is a figure of an encysted abscess, which appears to have been secondary to a dropsey of the ovary. The same is illustrated by the case of Vater (Haller Disput. Med. t. 4, p. 401,) in which the ovarium was as large as an adult head, containing pus in many of its capsules. Perhaps we ought to consider the cases of Callisen as suppurated dropsies. *Vide* Note in Boivin and Dugés Work, p. 492. Formation of pus in the ovary is indicated by soft pulse, rigors, and amelioration of previously existing symptoms of inflammatory action in the locality. There is a beating pain, and sense of weight is increased. The symptoms in a great degree resemble dropical affections of the ovaria, but in the latter there is more evident and uniform fluctuation, greater volume, higher position in the abdomen, pain and tenderness on pressure, until within the last few days. Such abscesses may discharge themselves into the abdominal cavity, and death occurs from peritonitis; should death not take place, adhesions will take place between the peritoneal surface of the diseased ovary and the walls of the abdominal cavity, preventing further escape of pus. Sometimes the pus points outwardly, generally in the iliac regions, and escapes through the integuments. An example of this will be found in Denman's Midwifery, p. 476, also in the Jour. Med. Canée, Vol. i., p. 413. These abscesses have also been known to communicate with the uterus, bladder, and rectum, and by those outlets the pus has escaped. For examples of this, consult the work of Boivin and Dugés, and the Mem. Acad. sc. 1700, Obs. 5. An abscess of the ovary may drop down lower in the pelvic cavity, and present a fluctuating tumour between the vagina and rectum, and it has been stated that pus has been discharged from a suppurated ovary along the fallopian tube into the uterus. Ovarian abscess may terminate in gangrene, a rare case, and only to be discovered after death. The treatment of the formation of abscess of the ovary must be referred to the article *Ovaritis*.

**Abscess of the Uterus.**—Examples of this disease will be found in the writings of Mauriceau, Van Swieten, La Motte, and Astruc, &c. &c. Mr. Howship has a preparation of a uterus, where an abscess was formed in its walls, which contained a full ounce of pus. Dr. J. Clarke, in the Trans. for the Improvement of Medical and Surgical Knowledge, Vol. iii. p. 560, proves that a purulent collection may form within the uterine cavity, and may co-exist with a closure of the os uteri, the pus may escape through the vagina, into the rectum, peritoneum, or into the cellular tissues of the pelvis. Uterine abscess gives rise to considerable fever, and its discharge may be attended with great danger and death. The manner of treatment is the same in the formative

stage, as in the abscesses already spoken of, and the abscess itself must be treated according to the same rules.

**Abscess, Psoas, and Lumbar.**—In the *Edinburgh Practice*, vol. 5, *Midwifery*, p. 505, a case of psoas abscess is communicated by Dr. Denman to the editors of the *Medical and Physical Journal*, which is stated to have succeeded labour, and considered to have been caused by violently extracting the placenta after a previous delivery; the abscess discharged itself into the bladder; the case ultimately did well under the care of Drs. Denman and Baillie. It is not necessary to enter into the description, diagnosis, and treatment of psoas and lumbar abscess in this work, the case above occurring, as it did, after and from the supposed consequences of maltreatment in delivery, could not be over-looked.

**Abscess Acute** (diseases of women and children).—In children the simple acute abscess observes the same progress and requires the same treatment as that of adults. It commences in the cellular tissue with pain, swelling, heat, &c., and makes its way to the surface readily: after the hard solid tumefaction, a redness of the skin is perceptible, which gradually becomes concentrated to a point, and as the abscess approaches maturity, the part assumes a purple tint. A softened centre is then observed: if left to itself it soon discharges by emollient poultices, or a point is formed which gradually forms an eschar, and the pus escapes from beneath its edge. If pus has not been formed, that is, if the case is noticed in its earliest stages, an attempt may be made by a leech, or evaporative lotions, and a brisk purgative to prevent suppuration. But if this cannot be accomplished, every encouragement must be given for the perfection of the suppurative process by fomentations, and a poultice of bread and milk, never forgetting to add the necessary oil, or lard, to keep the poultice soft as long as possible, or what is much better, the saturated spongio piline. The poultice should be frequently renewed—much oftener than is generally done; and this continued until the discharge of the pus. If the abscess occurs in a part not exposed to the eye, it may be allowed to discharge itself when matured, but otherwise a small opening must be made with the lancet; care must be taken, however, that the abscess is thoroughly matured.

**Abscess of the Vulva.**—Three cases of this nature are related by M. Velpeau, in the *Journal de Med.* in persons of the ages of 19, 20, and 23, supposed to have arisen from excess of coition. Their treatment is the same as all other abscesses.

**Abscess of the Nymphæ.**—Occasionally inflammatory attacks of the nymphæ have resulted in the formation of pus; the treatment is the same as in abscesses generally, viz. emollient applications until matured; the lancet is but seldom necessary, the tissues easily giving way to common applications. Attention to the bowels is necessary afterwards, and the practitioner must not lose sight of the possibility of a venereal affection being connected with it.

**Abscess Chronic**—(diseases of women and children).—Both women and children are liable to chronic abscesses in different parts of the body, which acquire different names according to the position they occupy, and their treatment will, in some measure, be regulated also by position. Superficial chronic abscesses are seldom attended with much pain or discoloration; a slight blush or redness, and a trifling degree of tenderness, is observed on the apex before



the integuments give way. The contents are generally thick'pus, and variable in quantity; some on the trunk are immensely large, but the most common are those about the neck. As to the cause, it must be looked for in the constitutional debility of the patient, hereditary taint, too limited clothing, &c., &c. The treatment consists in making an opening when the apex is sufficiently thin, which is indicated by the blush of redness; care should be taken that the opening is made where the skin forms a wrinkle or is out of sight when dressed, so as, if possible, not to be observed. One of the principal objects in cases of this description, is to pay attention to the improvement of the constitution, otherwise the simple treatment of the abscess itself will amount to no good.

**Abscess of the Conjunctiva.**—Dr. J. M. Coley states that phlegmonous abscess in the eye-lids is a rare disease; it is chiefly observed in the upper lid, and is often produced by cold. The Dr. might have added that, in these cases, the digestive organs are often at fault. Treatment, if early adopted, should be leeches, pads of linen in tepid water, and saline purgatives. If too late for resolution, suppurative process must be encouraged, and, when sufficiently matured, the abscess should be opened *on the under side of the lid*, to prevent unsightly scars, and the pad with tepid water applied as long as necessary. In one or two cases I have found a disposition to re-form, when a pencilling with ungt. hydr. nitr. will act beneficially applied every night with iii. vel v. grs. of hydr. c. creta. pro. re. nata.

**Abscess of the Ear.**—(Scrofulous habits.)—Both adults and children are subject to troublesome chronic and offensive discharges from the ear, accompanied with deafness. To examine the state of the ear-passage, a pair of common scissor-handled forceps is the best, the blades extended when introduced. Injections of alum and sulph. zinci, ten grains of the former to four of the latter, to one ounce of water, should be used twice a day, which, with a little aperient medicine, will be sufficient. If the habit or constitution is bad it must be attended to.

**Abscess in very Young Children.**—We have frequently had occasion to treat large collections of matter in very young children, which, if the short course of life already permitted to the little patient did not forbid, we should be almost tempted to call chronic abscesses. These formations of matter we do not recollect to have seen noticed by any author; yet they are of very frequent occurrence. Their usual situation is in the axilla, neck, or lower part of the leg; but we have observed them in almost every part of the body. They set in and increase with little appearance of inflammation, and often attain a very considerable size, without having excited any general fever. We have sometimes given exit to a wine glassful of matter from one existing in a child a few weeks old. The disease consists at first of a tumour, apparently not very painful to the touch, until it approaches the surface, when the skin becomes inflamed, and a process of pointing commences. We can then satisfy ourselves by the touch, of the presence of a fluid, and the sooner we give vent to it, by a small opening with a lancet, the better. The pus is sometimes fetid, at others healthy. After being opened, the abscess commonly gets well without any treatment, beyond the use of a poultice, being required. *Vide* Evanson and Maunsell's Treatise on the Diseases of Children. Dublin, 1842.

**Abcission of the Cord.**—(Abciedere, to cut off.)—**Abcissio L.**—**Abcission F.**—**Absehncheidung F. G.**—Sometimes incorrectly written *abcission*. *Abcis-*

*sion or amputation of the umbilical cord.* At the present day, the propriety of cutting through the navel string is acknowledged in all civilized countries and by all obstetric practitioners. After the child is born and the circulation through the lungs established, a ligature is placed upon the cord, and the latter divided behind it. It has been argued, that, as in beasts, the navel string is not cut, neither is such a proceeding necessary in the human species; *Ziermann* and *Wolfart* proposed to effect its separation by pinching or tearing it with forceps, in imitation of animals which bite it off; but no ground whatever exists for preferring the manner of beasts, to the much simpler and securer plan of tying and cutting through the cord. To us it appears, that, unless a cutting instrument is used, or great caution employed, the navel may easily be injured, and fatal illness arise, in consequence of the tearing which must necessarily take place. To this cause the trismus and tetanus of children have not unjustly been attributed. Besides, the umbilical vessels, when they have been lacerated, are prone to inflammation, and this may extend to the navel. These considerations even prove the necessity for the use of cutting instruments. If such evils do not occur in beasts, it must be taken into consideration that in them the navel string is softer and not so strong, and therefore requires less force for its separation. The navel, too, is less sensitive or disposed to take on disease. Abscission of the cord has the sanction and recommendation even of the earliest times. Thus *Hippocrates* speaks of it as a well-known and customary proceeding; and *Mesmer* quotes a passage in the Book of the Prophet *Ezekiel*, in which the Jews, as descendants of the *Canaanites*, are reproached for having omitted to cut the navel at birth, and neglected ablution.—(*Ezekiel*, c. xvi. v. 4.) The mode of performing this operation, although very simple, requires a few particular remarks. The advice we ourselves give, is—First, to tie, and afterwards to divide, the navel string. Some, however, amongst whom is *Velpeau*, recommend the division of the cord before tying it. The grounds for this advice appear to be the following:—It has been maintained that it is necessary to squeeze out the blood from the cord, lest it be re-absorbed, and become a cause of disease. But if we wait for the cessation of pulsation in the cord, the blood remaining in it coagulates, and has no influence upon the organism of the child;—at all events, it will be sufficient, although we think this superfluous, to squeeze the blood from the child towards the placenta with the fingers. Another untenable ground is, the difficulty of tying the cord whilst the child remains in the bed between the thighs of the mother. Now, if the cord be cut before being tied, we must close the open end with the fingers, lest too much blood be lost, and the removal of the child from the bed will then be attended with difficulty, because we have not both hands at liberty for the purpose. Again, *Velpeau* considers it advantageous, because, after the child is removed from the bed, one can carefully examine it to see if any portion of the intestines or bladder protrudes through the navel, that they may not be included in the ligature. But if the cord be divided at a proper distance from the child, such an accident is scarcely possible; and if the application of a ligature is to be feared on that account, abscission must be hazardous in a much greater degree. There is, consequently, no sufficient reason for preferring to cut the cord previously to tying it; and as by so doing, a loss of blood, injurious to the child, may

possibly occur, in spite of every precaution, we cannot give our sanction to the proceeding. The navel string, therefore, ought not to be divided until after it has been secured by a ligature. The place where the navel string ought to be divided has been variously described. According to *Guillemeau* and *Fournier*, for the sake of acceding to the wishes of old women, a longer piece should be left in boys than in girls. *Baudelocque* says the cord ought to be tied about two inches from the navel, and advises this practice to be adopted, because it is commonly believed that the navel is depressed or prominent, according as it is tied nearer to or farther from the abdomen, although the accoucheur may entertain quite a different opinion. *Deleurye* advises seven or eight inches being left, in order that the ligature may be renewed if necessary. We consider it a good plan to divide the cord four inches from the child. As it never separates at the place where it is tied, but always at the navel, the place where it is to be cut is a matter of perfect indifference as regards the shape of the navel. If, however, it be divided too near the body of the child, and an umbilical hernia be present, a fatal injury may easily be inflicted, and in case the wound be inflamed, the inflammation might extend to the navel of the child. If, on the other hand, too long a piece of cord be left, it will be inconvenient and troublesome to manage. The best instrument for dividing the umbilical cord is a pair of sharp scissors of sufficient size and strength. The precautions required to be observed in making the division are:—First—not to injure any part of the child; for in its movements a finger, &c., may easily get between the blades of the scissors. Second:—to make the division in the proper place, and not to cut the cord between the ligature and the child, lest the latter be injured by loss of blood. The best plan is to take hold of the cord with the left hand, in such a way as to compress it on the one side between the thumb and fore finger, and on the other side between the little and ring fingers. The blunt end of the scissors should be directed towards the palm of the hand. Thus we can determine precisely the spot where the division is to be made, avoid all danger of injuring the child, and prevent the blood spirting about and soiling neighbouring objects at the moment the abscission is made.—*Translator's remarks.* In the above article no mention is made of the application of a double ligature, as usually practised in this country. I am told it was the habit of a very eminent accoucheur, the late Dr. Rigby, of Norwich, to apply but one ligature. His successor, the late Mr. Scott, followed his example; and shortly before his death strongly recommended me to adopt the plan as a means of obviating difficulty in the management of the placenta. *White* (in his treatise of lying-in-women, p. 110,) says, "it is better not to tie that end next to the placenta, for the more it is lessened by the blood being drained from it, the greater liberty is given to the uterus to contract." But I remember to have seen it somewhere advised, after the birth of the child, to squeeze the blood along the cord towards the placenta, because, by filling it with blood, the uterus will be sooner excited to expel it. I have always pursued the usual plan of applying two ligatures, as being more cleanly, and have no reason to believe that I could have been more successful in the management of the placenta, had I endeavoured either to empty it or render it more turgid. *Editor's remarks.*—We are of opinion that two ligatures are not strictly necessary, still cleanliness suggests the propriety of their use. In cases where the placenta has been retained from more signs of

engorgement, we have noticed, that allowing the placental end of the cord to bleed, has facilitated its expulsion. And also where there has been placental adhesion we have had reason to suppose that the same means have assisted in the separation.—This article was translated from Busch and Moser's *Handbuch*, &c., by E. Copeman, M.D., Norwich.

**Absorbent**.—From *absorbere*, to suck up. *Absorbens*, L. *Absorbant*, F., *einsaugung* G. This term has three significations. First, to minute vessels which absorb chyle from the aliment, &c.; second, pharmaceutical means which take up acidities in the *prima viæ*; third, in surgery, like lint, sponge, agaric, or spider's web, to repress hæmorrhage, or take up moisture. In reference to obstetrics, the term is of little importance. The pelvis and its appendages, like all other parts of the body, is supplied by proper absorbent vessels and glands. Dr. Blundell observes, that on the loins and the back of the vagina, glands are seated, which sometimes swelling, may become as large as a pullet's egg; though rarely known to obstruct parturition.

**Abstraction**.—Dr. Blundell uses this term in reference to the removal of a fœtus from the mother after the death of the latter.

**Abstinence**.—(From *abstinere*, to abstain.) *Abstinentia* L. *ἀστυα*, *ἀμαρτυα* G. *Abstinence* F. *euthaltung*, *euthalt-samkeit*, G. *Abstinence*, continence, privation, perfect or imperfect of food, drink, sexual intercourse, study, or other object of physical or intellectual enjoyment. Some writers on obstetrics have insisted that abstinence from food will reduce the size of the fœtus in utero, so that it may pass through a deformed pelvis without the risk attendant on an averaged sized child. Cases are not wanting to support this view, but unfortunately an emaciated fœtus is not necessarily a consequence of abstinence. We have ourselves witnessed many cases of full-sized children at birth where the mothers had for some time previously suffered from the extremes of deprivation. Dr. Merriman, in his synopsis of difficult midwifery, adduces similar facts, and in the *British Record of Obstetric Medicine*, a case is narrated which proves, with many others on record, that although it is possible starvation might reduce or emaciate the fœtus in utero, yet it is by no means a certain consequence; indeed we incline to the opinion that the poorer classes have often the finest children, whilst heirs of the greatest luxury and repletion are often of a puny and unhealthy character. For further information we refer to Dr. Merriman's synopsis of difficult parturition. Lond. 1820, p. 169, 299.—*Memoirs Med. Society*, Lond., Vol. II., by M. James. *Nuovi stromenti di ostetricia e loco uso par S.*, Assalini, 1811.—Dr. Frentruss in *Casper's Wochenschrift*.—*Medical Times*, Vol. X., p. 279, by Dr. Clay.—*British Record of Obstetric Med.*, retrospect for August, 1848, p. 101, by E. Evans, Esq.—*Buchner Miscell.*, 1727, p. 125.—*Fabricius Hildan*, c. 4, ob. 30.—*Act Nat. Ceur.*, Vol. III. ob. 36.—*Linard*, Paris, 1600, 12.—*Commerce. Liter. Nor.* 1732, p. 46, 367.

**Abbu'l Casim**.—By some termed *Abul Casem* *Calef*—*Ebnol Abbas*—*Albuchasis*—flourished A.D. 1120. This writer's name has a greater variety of form than any other in medical biography. He has also been called *Albuchase*, and *Bulcasim*. He was a resident of Cynopolis, on the Caspian sea, and there practised as a surgeon. He was the inventor of two kinds of midwifery forceps, of which no exact representation remains, but it may be presumed those of Avicenna and Abu'l Casim are pretty much alike.—[See article

Avicenna.] Abu'l Casim relates a case of expulsion of the fetus through the abdominal parietes. The writings of this celebrated man are little known; they were characterized by great research and extensive experience. The art of surgery, which in his time was fast sinking, was by his exertions greatly revived. His works have often been reprinted, and were considered as the standards for some centuries, one copy of which was published at Oxford in two vols. quarto, 1778.

**Abuse.**—A term not inapplicable to very many circumstances connected with practical obstetrics, not only in the exhibition of remedies in diseases of women and children, but in the mechanical assistance rendered at the time of labour; in fact, every step taken by an accoucheur not warranted by practical experience, or dictated by sound reasoning, is an abuse. And that such are of frequent occurrence, the annals of every country afford but too abundant melancholy proof.—*Vide* Expose sur quelques abus dans la pratique des Accouchemens. By M. G. A. Christophe. Nancy, 1821. The known abuses arising from the employment of ignorant midwives have long been notorious to the medical profession, but the laws are as yet inefficient to punish them.

**Acardia.**—(From  $\alpha$  priv. and  $\chi\alpha\rho\delta\iota\alpha$  the heart.) The state of a fetus born without a heart, as in those arrests of development where the whole thorax is wanting. The cases related of absence of the heart in individuals, otherwise perfectly formed, are doubtless fictitious or erroneous. It has been asserted that a fetus with a head might be born without a heart, but it is doubtful.

**Accidents.**—(From accidere to happen.) Accidens, L. Accident, F. Zufall, G. A lesion occurring unexpectedly in the course of a disease or natural action, and not essentially connected with either. In reference to obstetrics, this term has an extensive meaning, the points of which we shall briefly enumerate; a further explanation will be found under the separate articles. Difficult labour is liable to many accidental mischiefs, and more in proportion to the ignorance or inattention of the accoucheur, some of them are almost irremediable, and all of them of a serious character. 1. *Rupture of the air cells.* Occasionally happens from the violent efforts of the female to assist expulsive action by holding in the breath. Dr. Blundell witnessed one case. It is usually not extensive, and the escaped air is soon re-absorbed again. We think it better as a rule to practitioners to submit to the noise of the female crying out during the pain, rather than encourage them forcibly to distend the lungs and render themselves liable to such an accident which might be to a great extent. 2. *Disruption of the vascular system.* Frequent accidents of this nature have occurred during difficult labours. In one case related by Dr. Blundell, the left ventricle of the heart was burst open. Dr. Denman relates a case which occurred to himself, where the same pain that expelled the child ruptured the pulmonary artery. Sometimes the vessels of the head give way, and blood may be extravasated in the brain, hence apoplexy, hemiplegia, &c. In patients disposed to plethora, the accoucheur must be on the alert as to preventives, particularly bleeding. 3. *Rupture of the uterus* is another most serious accident, from which but few recover. It may arise from undue interference of the accoucheur, or from the violent efforts of nature without such interference; and lastly, it may be owing to a want of proper assistance being



rendered: as this accident is usually treated upon at length, we refer to the article devoted particularly to that subject. 4. *Ruptures of the vagina, rectum, and perinaeum*, singly or combined, are occasionally met with. It is possible that such occurrences may take place under peculiar circumstances, in spite of every attempt on the part of the practitioner to prevent it, but very many of these accidents can be traced to the hurry, indiscretion, or neglect of the accoucheur, points on which we shall subsequently speak. 5. *Rupture of the bladder* is also a very formidable accident, as also the distention of this organ by the accumulation of urine antecedent to rupture. Inattention to the state of the bladder is inexcusable on the part of the accoucheur; accidents of this description characterize the practitioner in attendance more notoriously than enviable. 6. *Injury of the soft parts* arising from improper use of the forceps, vectis, crotchet, blunt-hook, or perforator. 7. *Collapse* from being kept too long in labour. 8. *Convulsions*, and lastly, 9. *Hæmorrhage*. Other accidental circumstances might be spoken of, but as they are of minor importance, the preceding will perhaps be deemed sufficient.

**Accidents.**—*In reference to children at and immediately after birth.* The infant at birth may labour under certain morbid conditions, or may suffer from accidents or diseases peculiar to the first moments of existence which require separate consideration. Of these we may notice asphyxia neonatorum; imperforate anus, vagina, and penis; spina bifida; shortening of the frænum linguae; hare lip; deformed limbs; nævi; ruptures; mechanical injuries at birth; cyanosis; trismus nascentium; erysipelas; abscess; induration of cellular tissue; jaundice; purulent ophthalmia; red gum: swelling of the mammae; syphilis; hydrocephalus; hydrothorax; ascites; hydrocele; prolapsus recti; hepaticomphalus; cranial tumours; absence of the skin; tumours on the body; ulceration of digestive organs. Each of these will be treated upon separately under their own heads.

**Accession.**—A term employed by some writers to describe the commencement of the process of parturition.

**Acidities.**—(Pathological.) All the excretory fluids of the body, such as the urine, perspiration, milk, gastric fluid, &c., have, even in health, a certain degree of acidity dependent on the presence of acetic, or hydrochloric acid; but this property becomes a great deal more intense under certain morbid influences, as in children affected with the *tinea muciflua*, in women recently delivered, in chlorotic females, in maniacs, scrofulous and phthisical patients, &c. In the eruptive fevers, and parenchymatous inflammations, the patients exhale a more or less powerful acid odour. Acidities of the digestive organs are of the most common affections of the young un-impregnated, as also of the pregnant and parturient female. The infant, from birth to seven years of age, is also very liable to suffer from the same cause. If the stomach be affected with acidity during pregnancy, bitter infusions with any of the principal alkalies will be found of great advantage. Lime water, milk, and magnesia are often given. Dr. Baillie, however, preferred mineral acids, and Dewees vegetable acids, more particularly lemon juice. He also advises clove tea as infallible. We have always found the greatest efficacy from the use of infusi, gentianæ, or colombei, with potash or ammonia in some of their forms, particularly Spt., ammon., arom. Acidity prevails during the first preg-

nancy more than subsequently; and it has been said more severely if pregnant of a male than a female child. Although this affection may be constant and distressing throughout the whole period of pregnancy, yet the child, at birth, does not appear to have suffered from its effects. In regard to acidities in infants during the first year of its existence, we are extremely loth to advise much medicine; indeed, the less the better. Much may be done by proper attention to the diet and drink of the mother, who often, in spite of every remonstrance, will indulge in matters highly pernicious to her milk, and thus entail constant misery to the child, whose tender organs are affected seriously with the slightest indiscretions as to food and drink. If medicine, however, is called for by the severity of symptoms, the following will often be found effective.

R. Sacch. pur. ʒss to ʒii  
 Ol. Anisi. m. iv to viii.  
 Aq. Anethi. ʒi to ʒiii.  
 Tr. Opii. m i to iv.  
 Conf. Arom. ʒss to ʒss.  
 Syr. Simpl. ʒi M.

Dosis ʒi, vel coch. parv. sing. semihoris, et sic, pro ut urgeant symptomata. Acidities bring on other affections in infants, which will be treated upon in their proper places. For more extensive information consult Arnolt, *diss. de acido peccante et corrigente humores*. Ludg. Bat., 1694. Burserius, *Institutiones*. iv. p. 321. Fischer, *diss. de morbis ab acido*. Erf., 1710. Gaine, *diss de acido infantum*. Trah ad R., 1761. Hippel, *diss de morbis ex acido*. Regiom, 1754. Loeber, *diss historia morborum ex acido* Jen., 1724. Struve, *diss de acido*, &c. Kilon, 1750. M. Underwood, *diseases of children*, Lond., 1811. Dr. Ryan's *Manual*, London, 1841. Dr. Coley's *Practical Treatise*, London, 1846. F. Churchill, M.D., on *Diseases of Females*, Dublin, 1844. Evanson and Maunsell's *Practical Treatise*, Dublin, 1842. Billard's *Traite Malad. des Enfants*. Bruxelles, 1833. M. Hall's *Female Diseases*, London, 1827. Burn's *Popular Directions*, London, 1811. Moss's *Essay on Management of Children*, Egham, 1800. S. Ashwell, *Practical Treatise on Female Diseases*, London, 1848. Addison's *Observations*, London, 1830. Gream on *Diet of Children*, London, 1847. G. Armstrong on *Diseases of Children*, London, 1808. Gervino on *Disease of Children*, London, 1829. C. M. Clarke on *Diseases of Females*, London, 1814; with a host of others, which it is here unnecessary to enumerate.

**Acclimation.**—By this term is understood the accommodation of the human constitution to every climate, although the same may have previously been located in a spot totally different in character. Thus man may be so inured as to inhabit from 65° South to 83° North latitude; and, probably, if no other obstacle than temperature presented, the extremes might have been still wider asunder. Man lives, therefore, in regions far hotter than the blood circulating within him; and also where it is sufficiently cold to freeze mercury. The effects of climate are very remarkable and important, both in regard to health and disease. In reference to obstetrics, it has been supposed that females, natives, or even temporary residents, of warm climates, are of much more lax muscular fibre than in colder regions; and that, as a necessary con-

sequence, their labours at child-birth are easier. It is probable this may have some trifling influence, but it is also probable the facilities have been much exaggerated. In some measure, confirmative of this idea, we have had many years experience of the fact, that women employed in highly heated manufactories have easier labours than their neighbours *not so employed*.

**Accouchee** (adj) used substantively a French term. *τοχας, παιδοιευχος*, G. *puerpera* L.,—*wöchnerinn*, *kindbetterinn*. G.—A puerperal female, one who has just been delivered of a child.

**Accouchement**, s. m., *τοχας*, G. *partus*, m., *parturicio*, f. L.—*entbindung* *hiederkunft*, f. G., a French word now in common use, to express parturition, childbirth, lying-in, and by which is understood the expulsion, or extraction, of the child from the body of the mother, including the placenta, or afterbirth. If this occurrence takes place before the ninth month it is termed *premature*; but if the ninth month of gestation be completed it is termed (that is, in respect to time,) *natural labour*. The full period, however, may be completed, and from difficulties which then present themselves, the accouchement is not accomplished without artificial assistance: it then ceases to be called natural labour.

**Accoucheur**, s. m., *partus*, adjutor, L., *geburtshelfer* *hebarzt*, m. G.,—A French term, commonly used to signify a male practitioner of obstetrics, or what is usually termed a man-midwife.

**Accoucheuse**, s. f.,—*Obstetrix*, L., *hebamme*, *wehmutter*, f. G.,—A female who practises the art of obstetrics, usually termed a midwife.

**Accouplement**, s. m., *copulatio*, f., *coitus*, m. L., *paarung*, *begattung*, f. G.,—A French term for copulation, or coition, by which is understood the act of sexual intercourse.

**Accubatio**. (From *accumbo* to recline.)—A term sometimes, though rarely used to express childbed, or reclining; confinement in a recumbent position.

**Acephalia**. Vide *acephalous*.

**Acephalous**. From *a* priv., *κεφαλη* a head. *Acephalus* L.,—*Acephale* F. ohne haupt G.,—A term applied to those fetuses born (from original defect of organization) without a head. Chaussier Bécлар, Tiedemann, and Meckel have adopted this term; but Geoffrey St. Hilaire, having discovered parts of the head more or less complete, rejects it, and substitutes the general title *anomo-cephalous* in its place, and attaches numerous species to this genus.—*Acephalous* fetuses are generally of the feminine sex, and are sometimes the offspring of well-conditioned parents. They are frequently expelled after the birth of a well-formed child, and appear to be several weeks behind its companion as regards development. There is often but one placenta, and the cord is very short and infiltrated. These fetuses are more or less deformed, both externally and internally. The whole of the nervous system is often found wanting. The liver, lungs, spleen, and pancreas, are often missing, and very frequently other parts, with the osseous system, are very imperfect. The genital system is the most generally to be met with; but even this is so very imperfect, that it would be difficult, in many cases, to distinguish the sex. Notwithstanding the numerous defects of the *acephalous fetus*, it has been proved to possess a certain degree of vitality. Several have executed certain movements on coming into the world; but they generally



die a few minutes after birth. In regard to the causes which produce these objects, authors are very much divided. Winslow, Prochaska, Gall, Spurzheim, Locat, Handfort, Serres, Beckard, with many others, have advanced peculiar theories, which are far from being tenable. Chaussier, Meckel, Tiedemann, Geoffroy St. Hilaire, and most modern authors, consider this state as a mere arrest of development, without endeavouring to seek for its primary causes; and with this doctrine we fully agree. It is quite sufficient for all names, and is satisfactory, having for its basis positive observations made recently in France and Germany, on the development of embryotic organs. Mandin asserts that lively, moral impressions, pressure exercised continuously on the abdomen, in the hope of disguising pregnancy, and different disarrangements of the placenta, may cause the production of acephalous fetuses. These points, however, admit of considerable doubt.

**Acephalobrachia.** Deriv. same as acephalous and *βραχίων* arm. *Acephalobrachium*, L. *Acéphalobrachio* F. eine leibesfrucht ohne kopf und arme, G. A variety of the acephalous born without head and arms.

**Acephalocardia.** Deriv. same as acephalous and *καρδία* the heart. A fetus born without head and heart.

**Acephalochelous.** Deriv. same as acephalous and *χερ* hand. A fetus born without head and hands.

**Acephalogastric.** A fetus born without head and stomach.

**Acephalopodia.** A fetus born without head and feet.

**Acephalorachia.** A fetus born without head and spine.

**Acephalostomia.** A fetus born without head and mouth.

**Acephalothoracia.** A fetus born with head and throat.

**Acephalus.** Vide acephalous.

**Acestoris.** A term formerly in use to imply a female physician, or midwife.

**Acetabulum.** (*Acetabulum*, i. n., a cup or dish.) *Acétabule* F. *Acetabulum* L. Schalenformig (cup-like G.) In anatomical language applied to the cup-like cavity formed by the junction of the ilium ischium and pubis for the reception of the head of the thigh-bone, sometimes called the *cavité cotyloïde* F., which cavity is supposed to resemble the vessel used by the ancients for holding vinegar on their tables. This term was formerly in use for the cotyledon umbilicus or umbilicus venerius; also for the lobes or cotyledons of the placenta in ruminating animals; and, lastly, it has been applied to the mouths of the uterine veins, terminating in the placenta, a physiological position not clearly proved.

**Acheir.** (From *α* priv., and *χερ* hand.) *Demanus* L. *Achire* F. Handless, ohne hand G., a term applied to those arrests of development born without hands.

**Achor.** A term used by the older writers to apply to the disease usually termed the scald head, so called from the branny scales thrown off it. Vide *Tinea Capitis*.

**Aciesia.** From *α* priv., *χρεῖν* to conceive. *Aciesie* F.—*Aciesia* L.—das unvernögen zu empfangen, unfruchtbarkeit G., inability to conceive, sterility, barrenness in the female; also, according to some authors, inability in a pregnant female to accomplish delivery, from malformation of the pelvis, or other causes, das unvernögen einer schwangern zur neiderkunft zu gelangen wegen missbildung des beckens u. s. w., G.

**Acne.**—From *αἰς* G.—Varus, L.—Hautfinne, kupferfinne im gesicht, G.—This term was anciently employed by Ætius, and latterly by Sauvages, to distinguish a variety of the *gutta rosea*. More recently still, Willan and Bateman have comprehended under that term the *gutta rosea*, *herpes pustulosus*, *miliaris*, *herpes pustulosus disseminatus*, or *dartre pustuleuse disseminée* of Alibert. As the word *gutta rosea* is used in France to designate a chronic pustular inflammation of the follicles of the skin of the face, the term *acne* is used in a more restricted sense than the English Pathologists, employing it to indicate merely the *dartre pustuleuse disseminée* of Alibert, and which has been confounded by Willan and Bateman with the *gutta rosea*. They do, however, assume the same form and affect the same parts, but the French writers apply the term *gutta rosea* when the face is the seat of the disease, whereas *acne* is used to signify the disease when attacking other parts of the body. The disease, however, might be termed *acne* of the face, *acne* of the body, to which might be added *mentagra*, or herpes of the chin, all of which are modifications of the same disease, varied by the difference of structure in the skin of those parts. *Acne* may be defined a chronic inflammation of the sebaceous follicles, characterised by isolated and pointed pustules, most frequently occurring on the shoulders and breast, followed, after desiccation, by violet spots, tubercular indurations, or small cicatrices, and frequently mingled with spots and follicular pimples. The eruption of the pustules of *acne* is generally successive, and commonly disseminated over the body; the shoulders and breast only may be attacked at first, but it may spread over the whole body, including the back part of the arms. It takes place without heat or local pain, and frequently without itching. Some of the pustules may be very small, others very large. The smaller ones show themselves as inflamed pimples, conical in shape, the base surrounded with inflammation; they suppurate slowly, and each proceeds independently of the other, so that the various stages of suppurating, desiccation, and cicatrization, are going on in different parts at the same time. The larger pustules contain at first sebaceous matter; from some cause or other they inflame, after which pus is formed; when these are drying, they are covered with a crust, which falls off by coming in contact with the clothing, and leaves a violet spot, indurations, or cicatrices, which in their turn gradually disappear. The orifices of the follicles are also very apparent, especially on the shoulders and breast; the skin feels oily, and shines; and between the pustules there are black spots, more or less prominent. Such is the appearance of *acne*. It may be accompanied by the *gutta rosea* and *mentagra*. Other inflammations may supervene during its presence, without appearing to exercise any influence upon it. In all cases, whether left to itself or treated in the best possible manner, it is a most obstinate disease, and very often returns, particularly in young subjects. The mode in which these pustules form, the parts of the skin where they frequent, the morbid disposition which accompany it, its never attacking parts free from sebaceous follicles, tend to prove it a disease of the follicles. Plumbe was aware of this, but erred in asserting that the inflammation was owing to the accumulation of sebaceous matter: this can only occur in a few pustules, whilst many of them are inflamed from the commencement, and contain only blood and pus. M. Billard states that he has never seen *acne* in infants at the breast. It is also a rare

disease in young children : it most frequently occurs between the ages of 14 and 36. Towards the latter age it is frequently complicated with *gutta rosea*, and more rarely *mentegra*. The causes of this disease are very obscure, in young women it appears simultaneously with dysmenorrhœa; it may appear very abundant in young people of excellent constitution, and equally so in those addicted to onanism, subject to abdominal irritation, or who abuse spirituous liquors. The diagnosis of acne is not difficult. Although *gutta rosea*, and *mentegra*, are varieties of *acne*, yet they may easily be distinguished by their situation and circumstances. The fiery spots which accompany the pustules and tubercles of a variety of the *gutta rosea*, are never seen on the shoulders or breast, accompanying *acne*; while the black spots and follicular pustules are very rarely found in *mentegra*. Pustular syphilitic lichen, and some superficial inflammations of the skin, offer some analogy to *acne*, but the pustules of the S. lichen, are also to be found on the limbs as well as the body; they are less prominent than those of *acne*, have a violet hue, and their base is surrounded by a copper-coloured injection. The skin is neither oily nor shining, neither are there the black spots found in *acne*. The cicatrices of the lichen are of a violet colour, and *depressed*, whilst those of *acne* are prominent. The lichen is also accompanied by other syphilitic symptoms, which of course assist in the diagnosis. The history of the case alone is but of little value, and may lead to serious mistakes. Artificial cutaneous inflammations, produced by pitch-plaster, tartar-emetic, croton oil, euphorbium, &c., differ from *acne*, by the cause which produces them, their external character, and progress. They only resemble *acne* in their seat, which is, at first, in the cutaneous follicles. When *acne* is but slight, it requires little or no treatment, unless complicated with *gutta rosea* or *mentegra*. Fresh water baths are sometimes useful when it appears to be dependent on onanism, and not connected with chronic inflammation of the lungs or intestines. Should it depend on such a cause, or the habitual excitement of the digestive organs, by the abuse of spirituous liquors, their influence must be removed ere the disease can be conquered. If the eruption is considerable on a young person of good constitution, bleeding has been advised, with acidulous drinks, fresh water baths, and a sober regular life. When the inflammation is over, sulphur baths have been recommended, particularly shower sulphur baths when the black spots are between the pustules; our own experience, however, is not in favour of sulphur either externally or internally. Vapour baths are also worth trying. Finally, it has often disappeared without any particular treatment. Much stress has of late been laid on the exhibition of the compound solution of iodine, arsenic, and mercury, proposed by Mr. Donovan, each drachm containing one-eighth of a grain of oxide of arsenic, one fourth of a grain of oxide of mercury, and four-fifths of a grain of iodine. We have not had sufficient experience of its merits to decide upon it. It is a very powerful medicine, and requires caution.—Vide the works of Willan, Bateman, Plumbe, Billard, Alibert, Bayer, and amongst the early writers, *Ætius*, *Sauvages*, &c., &c.

**Acoria**.—An inordinate or unnatural desire for food, not unfrequently an attendant symptom of pregnancy.

**Acra**.—A term used by the ancients to denote the period of menstruation. It has also been used to express nymphomania, or furor uterinus, *vide* *Avicenna*.

**Acra.**—*Vide* Acra, supra.

**Acrania.**—(a priv., and *κρανιον* skull.)—Acranie, F.—Acranius, L.—one of the most frequently observed arrests of development; and is, a fetus entire, with the exception of the skull cap and its contents. The following figure will sufficiently shew what is meant by the term acrania, from the admirable work of the great Dutch anatomist, Vrolik.

FRONT VIEW.



BACK VIEW.



**Acrata.**—(From a priv., and *κρατος* strength.) A term once in use to express debility; generally applied to impotence.

**Acridity.**—For an explanation of this term, *vide Acidities*.

**Aeromphalon.**—um, i. n.; *Αερομφαλον* from *αερος* extreme, and *ομφαλος* the navel.) The centre of the umbilicus or navel to which the umbilical cord is attached in the fetus.

**Acroposthia.**—The top of the prepuce, or that part which is taken away by the religious rite of circumcision.

**Acumen.**—A term for barrenness.

**Acuprea.**—Chastity; not disposed to sexual intercourse.

**Acutas.**—A term for barrenness.

**Acyasia.**—Also a term for barrenness.

**Addington John, Surgeon.**—Son of Dr. S. Addington, a dissenting minister, of Market Harborough; one of the earliest supporters of Dr. Jenner, on Vaccination. His work entitled *Observations on Cow Pox, Inoculation, is* very ably written.

**Addison Thos., M.D., London.**—Author of *Observations on the Disorders of Females connected with Uterine Irritation.* 8vo., London, 1830.

**Adhesion.**—*Congenital.*—*Adhésion, F.*—*Adhesio, L.*—The manner in which one surface joins to another not usually joined together—a morbid adherence. Congenital morbid adhesions are of the accidental character, not the result of an arrest of development, but the consequence of adhesive inflammation. Thus adhesions of the eye-lid, conjunctiva, lachrymal and nasal ducts, intestinal canal, narrowness of the prepuce, obliteration more or less considerable of the urethra, are the same in the infant as the adult; in the latter case, we have an urinary fistula (hypospadias, epispadias, umbilical fistula), imperforate or obliterated vagina, the fingers and toes adhering together, &c., exactly resembling the same accidents in the adult, and may arise from undue pressure on the various parts of the fœtus, and not from a primitive malformation of the embryo.

**Adhesions.**—*Placental.*—Many diseases during pregnancy may cause an adhesion between the outer surface of the placenta and the inner surface of the uterus. The result of inflammation is the effusion of lymph, and this gives rise to the adherence of the two surfaces, which otherwise is always easily separable by the powers of nature alone. The placenta is sometimes scirrhous or hardened by calcareous matter, and this state is accompanied by adhesion. The extent of the adhered surface is generally limited; occasionally, however, it has been found throughout its whole surface. This adhered state of the placenta is the result of morbid action during pregnancy, and has no reference to the act of parturition. It is more dangerous than irregular contraction, because the uterus, in contracting, separates more or less the placenta. When adhesion retains the mass, the uterus cannot contract so as to close the bleeding orifices of the vessels; hence we have mostly flooding, and sometimes to an enormous extent. It occasionally also happens when the adhesion is very extensive, and the part separated very small, but little bleeding will occur. The diagnosis of adhered placenta is very vague, until some attempt has been made at extraction. If after some time has elapsed, with strong pains, and no extrusion of the placenta, suspicion may be reasonably excited that adherence may exist. *Treatment.*—After the usual routine has failed, the hand must be introduced, and if adhesion exists, we must proceed to extract, with this axiom ever before our eyes—whenever the hand is introduced in utero for any specific purpose, that object must, if possible, be accomplished before the hand is withdrawn, it being the *sine qua non* of obstetrics never to withdraw the hand and introduce it a second time for what might have been accomplished at first; and we fear failures in such operations arise much oftener from ignorance or timidity of the accoucheur, than from any real difficulty in the case itself. In trying to separate the placenta, we may find some part so closely adherent and amalgamated (as it were) with the uterus, that attempts to separate would require a violence of manipulation that might seriously injure the mother; in

such a case violence must not be used, but rather peel off as far as can be done without violence, and then separate the loosened part from the firmly adhered portion, leaving the patch within to soften and come away with the lochia, (after all no desirable thing but as the lesser evil of the two to be preferred.) Smellie removed the firmly adhered part, and the patient died of hæmorrhage. The decomposition of the part left is a source of the greatest danger, and requires the utmost care and attention, and even then it is often too little. When the discharge is very offensive, injections of tepid milk and water should be frequently used, and the inflammatory symptoms promptly subdued. Every portion of the placenta must be brought away, if possible, else all our exertions may be fruitless. It is not intended in this article to treat on *retained placenta* generally; that subject will be treated in its proper place. Some authorities may be consulted on this question with considerable advantage, such as the following:—Bonet, Sepulch. L. iii. § xxxviii. Ob. 10.—Henkel Samm. Med. und Chirurg. Anmerkungen. vii. n. 1.—Morgani, de Sed. and Caus. Morb. Epis. 48. Ar. 28.—Stoeller, Beobacht. und Erfahrungen. n. 4.—Ephem: Nat: Cur. Dec. 11. Ann. 9. Obs. 187.—Reidlin, Lin. Med. 1696. p. 344.—Dr. Blundell's Principles and Practice, 1840.—Dr. F. Churchill's Principles and Practice, 1842.—And all the modern general systems of Midwifery; Smellie, Osborne, Burton, Ould, Guillemeau, Dionis, Lee, Conquest, Gifford, Chapman, Ryan, and many others.

**Adhatoda**—The Malabar nut. It is used in India for expelling the dead *fœtus*.

**Adolia**—A plant from Malabar, the leaves of which, boiled in the oil of sesamum, and made into a liniment, is stated, by rubbing on the abdomen, to facilitate parturition.

**Adolescentia**—(a, α, f.; from *adoleo*, to grow.)—Adolescence, F. Junglingsalter, n. G.—Adolescence signifies that period of life in the human species, at which the organs of the body have acquired their full development, marked out in the male sex at from fourteen to twenty-five years of age, and in the female from the age of twelve to twenty-one.

**Adoculation**—Latio, onis, f.; (from *ad*, and *oscular*, to kiss.)—A term used by naturalists to express a species of copulation or impregnation by mere external contact of the genitals of the two sexes, without intromission, as in some birds and fish.

**Adult**—a. m. *Adultus*, L. (*adoleo*, I grow.)—*Adulte*, F.—*Erwachsen*, G.—A term applied to animals and plants that have arrived at the period of full growth and development, a period that differs in different species. Adult age in mankind (*l'âge adulte*, F.) extends from the twenty-fifth to the fiftieth year, and in woman from the twenty-first to the forty-fifth year. In some cases man enjoys his full powers four or five years longer, viz., fifty-five, and women have born children at the very advanced years of from fifty to sixty; Sarah, the wife of Abraham, at ninety; but these are rare exceptions, and we perhaps much more frequently find human beings, with all the characteristics of old age, some seven or ten years before the average time. The adult state of full development is less liable to the invasion of disease; the temperament correctly defined, better capable of enduring fatigue, nervous system less irritable, less susceptible, although the impression is better received, preserved, and

transmitted. Reflection is predominant over imagination, and the physiognomy correctly expresses the passions of the mind. Unfortunately this beautiful epoch of life is but of short duration, the fullest perfection of faculties, the topmost step in life's ladder, is attained, and the next step is descending on the opposite side. The organs lose their vigour, the hair begins to whiten and fall away, the flesh less firm, muscles less powerful, teeth less supported by the gums begin to loosen and decay, genital organs less excited, the circulation of the blood less powerful, the venous system fuller, mental faculties less clear, memory failing; indeed every feature and circumstance tells to the world that decadence has commenced. It is remarkable that the exercise of organs creates a tendency or disposition to disease. An exact equilibrium of the human frame exists nowhere but in the imagination. Some organs are always more active, more exerted, and become the seat, consequently, of a predominating stimulation. In youth, man preserves that tendency to inordinate exercise of the genital system, which predisposes him to irritation and inflammation of those organs. Later in life, the gastro-hepatic apparatus becomes the seat of congestion; the love of the table succeeds that of the female; and hence the diseases of the stomach and liver; whilst the urinary organs, which participate in the excitation of both genital and gastric systems, become deranged: thus arises gravel, vesical calculi, diseased bladder, and prostrate gland, and other troublesome diseases. In woman, the uterus, which has been the seat of periodic congestion and stimulation, caused by repeated coition, pregnancies, and parturitions, &c., is the most liable to chronic irritation and organic disease, and the other organs which have participated in the excitement, such as the mammae, ovaries, &c., are extremely liable to disease. When growth has terminated, the system continuing to receive its accustomed supply of nutriment, plethora is certain to take place, which if it does rapidly, may cause congestion in some principal organ, and require active treatment. If it forms slowly, fat is deposited in the cellular tissue, the abdomen enlarges, and obesity ensues. Nature proposes relieving this plethora sometimes by different modes of evacuation, as by expectoration, perspiration, hæmorrhoids, &c. As adults are stronger and less excitable than younger persons, more powerful remedial measures can be employed in the treatment of disease. Acute diseases shew themselves in great severity, and require the most active treatment. The great means for such plethora is moderate diet—an imperative rule; bleeding and other artificial means are but temporary; the amount of aliment must be reduced; that only strikes at the root of the evil. The older the system, the more necessary is the reduction of food; every precaution should be doubled to guard against morbid action, the effects of which the organs can no longer support with impunity; but to remedy the affections which they tend to produce, the great object should be to meet the decline of life in the best possible position.

**Adynamia Uteri.**—(a priv., *δυναμις* power, strength.—Adynamia, debilitas, L.—Adynamie, F.—Kraft-mangel, schüache, G.—Debility, impotence: diminution of the vital powers, prostration of the action of the senses, and of the muscular system. *Adynamia Uteri.*—The term adynamia is employed in medicine in various ways, and in different degrees of signification. In reference to obstetrics, it may be considered as an unusually diminished activity

of the womb, accompanying, either as cause or effect, most of the diseased conditions of that organ; but we shall here treat of *adynamia uteri* simply in its relations to pregnancy, parturition, and the puerperal state. *Adynamia uteri*, therefore, consists in a diminished sensibility and irritability of the womb, evidenced by impaired excitability and want of muscular contraction, or by feeble labour pains. It will be seen under very different circumstances, and in various degrees and characters. First, as a primary and purely nervous affection, lessening the activity of the womb in pregnancy and during labour; as in women whose generating power is but feebly developed. If the development of the generating power, and the condition of the sexual functions, be not in harmony with that of the general organism, *adynamia uteri* may exist in women who are in other respects healthy and strong; but generally the whole constitution is implicated. Sometimes it is hereditary, occurring frequently in the same family; or it may make its appearance at a later age, towards the termination of puberty, in consequence of a too early cessation of the generating power of the woman. More frequently, *adynamia uteri* is a symptom of some other disease, or a consequence of depressing influences. Diseases of the substance of the womb, inflammation, rheumatism, tumours, &c., are generally associated with an *adynamic* condition of this organ. At other times, the disease is produced by debilitating causes, such as a sedentary mode of life, residence in a damp moist atmosphere, or in swamps loaded with vapours, the use of unwholesome food, mental emotions, &c., or by existing diseased conditions attended with losses, as leucorrhoea, chronic metorrhagia, repeated pregnancy and abortion, copious lochial discharge, &c. Sometimes the *adynamia* is only temporary and entirely symptomatic, e. g., in a feverish condition of the patient, from abdominal plethora, diseases of other organs, disordered stomach, loaded bowels, depressing mental emotions, or from unusual distension of the uterus, as by twin pregnancy, or too large a quantity of liq. amnii. It is also influenced by atmospherical changes, frequently appearing on a sudden, when the temperature is high and the air dry, or after extreme cold. When labour is impeded by mechanical causes, *adynamia* appears as the result of fruitless efforts on the part of the woman, and of the exhaustion thus engendered. The phenomena connected with the existence of *adynamia* during pregnancy, may also originate from other causes; and it is, indeed, extremely difficult to recognise the disease with certainty during this period; generally the body is weak, the breasts flabby, the uterus loose and moveable; the tendency to abortion is very great, and the fœtus is not tenacious of life. In the former months, prolapsus; in the latter months, obliquity of the uterus readily occurs. *Adynamia uteri* declares itself more distinctly during the act of parturition, by weakness or entire absence of pains, and other general or local symptoms. At one time, the pains break off, returning again after a long interval, and are but of little use; at a later period of the labour they become somewhat stronger, and, in a roomy pelvis, the labour may terminate naturally, without detriment to mother or child. At another time, the pains are feeble during the whole period, and when at last the child is born, various accidents may occur—the child may die; and as regards the mother, especially in the fifth stage, and after the separation of the placenta, hæmorrhage, prolapsus, relaxation of the womb, syncope, &c.,



may supervene. Lastly, the pains may be so feeble that the child cannot be born without artificial assistance; and the mother, if left to herself, lapses into a state of extreme exhaustion; hæmorrhage and inflammation of the uterus, with a tendency to mortification, may follow, and occasion the death of the patient. The uterus feels soft and flabby, falls from one side to the other, according to the position of the woman, and, during a pain, hardens but little and for a short time. On examining internally, we find the vagina cool and relaxed, and more or less lubricated; the os uteri flabby, and the lips as it were fallen together, easily dilated with the finger, and then returning to its former condition; the head advances but very slowly; and, in the fifth stage of labour, the uterus feels soft and large, and is indifferent to outward pressure. At the same time, the countenance is pale, the eye heavy and listless, the skin but moderately warm, the pulse weak and slow; in the beginning of the labour the organism is but little affected, but afterwards a great degree of weakness comes on, which declares itself particularly by a relaxation of the nervous system. When adynamia exists only in a slight degree, the pains are feeble in the early periods of the labour, which proceeds very slowly, and sometimes lasts two or three days. In the third and fourth stages the pains generally become stronger, and complete the labour, although the child is sometimes still-born; for when adynamia has long existed, the womb may be inadequate to the full nourishment and development of the child, rendering its existence precarious. If the adynamia be recent, and lasts but a short time, the life of the child will generally be preserved. During the progress of the labour it will be necessary to be continually watchful of the mother, and prepared for accidents which may happen after the expulsion of the child. When adynamia exists, and the labour is at length terminated by the super-vention of stronger pains, the effort causes so much exhaustion, that the mother is liable to various dangerous consequences, such as hæmorrhage, irregularity in the separation and expulsion of the placenta, syncope, vomiting, convulsions, &c. We must always bear in mind the possibility of these accidents, which often render artificial interference necessary. If adynamia be present in a high degree, and manifest itself equally in every stage of labour, either the labour proceeds so slowly that the life of the child is sacrificed, or does not terminate at all without the assistance of art. After the birth of the child, the womb remains in a state of extreme exhaustion, so that the placenta does not separate, or at least only after a long time; but a partial separation generally takes place instead, which gives rise to dangerous hæmorrhage, and this it is very difficult to restrain, owing to the paralysed condition of the uterus. The *prognosis* of adynamia uteri, therefore, is always doubtful. Danger may present itself at any moment, and the physician ought to watch the patient with the greatest attention. The *treatment* must be adapted to the degree of mischief, and the period of labour in which it occurs. In every case we must endeavour to ascertain and remove the cause of the weakness of the labour pains, which, however, is often seated in the constitution itself. Mental anxiety and apprehension on the part of the patient is to be combated by the assurance that all may terminate favourably; if the patient be cold, she must be well covered up, and take warm diaphoretic fluids; and a feverish inflammatory state is also to be overcome by suitable remedies.

The adynamia itself may render necessary the employment of means either to excite the uterus to greater activity, or to hasten the labour artificially; the symptoms will determine which kind of assistance is to be rendered. If we give medicines to excite the uterus, it may be rendered capable of stronger efforts for a time, and of expelling the child; but this exertion may be attended with such an expense of strength, that complete exhaustion will follow, which may prove in the highest degree prejudicial to the life of the mother. On the other hand, the application of the forceps in the early stages, with a high position of the head, is a formidable proceeding; and although the extraction of the child may be accomplished without any exertion on the part of the mother, yet, in the fifth stage of labour, the womb will be in an unnatural condition, not having undergone those changes necessarily effected by good labour pains. The practitioner must duly weigh these circumstances and manage the treatment accordingly, taking care neither to do too much nor too little; he should always bear in mind that the uterus must be an agent in some degree, and that either a deficiency, or an excess of activity, may prove alike injurious; that the use of the forceps may do harm, either by mechanical injury, or by destroying this activity; but that also a temporizing course of proceeding may give occasion to complete exhaustion, and death of both mother and child. All these circumstances must, in every case, be fully considered ere the practitioner determines the treatment; and here practical tact and ingenuity can alone guide him aright. In the two first stages of labour, the attention of the physician should be limited to the proper arrangement of the bed, and occasional examination. Artificial assistance is scarcely to be thought of, but on the contrary, everything avoided that can excite the uterus, lest the strength of this organ become exhausted, and the succeeding stages thus rendered more tedious. It is of no consequence either to the mother, or child, for the labour to progress slowly in the first two stages, and we ought scrupulously to avoid irritating the os uteri, or exciting the womb by rubbing the abdomen or compressing its fundus, although these proceedings may be proper in a more advanced stage. The pains ought to be left unassisted by voluntary efforts on the part of the woman, for at this period such efforts contribute nothing to the advancement of the labour, and her strength will be fruitlessly expended. We should administer internally, according to the condition of the patient, strengthening, but not stimulating medicines, the latter being serviceable only in the latter periods of the labour. When the weakness is not very considerable, good broth and yolk of egg may be given, and perhaps a little wine; but if the pains are very feeble, and the constitution of the patient much debilitated by previous illness, a table-spoonful of decoction China or Decoct. Ratanhiæ may be given every three or four hours. If too large a quantity of liq. amnii appears to be the cause of delay, we may rupture the membranes during the second stage of labour. When the third stage has arrived, the patient must be more narrowly watched, that we may be able to judge correctly of the progress of the labour, the efficiency of the pains, and their influence upon the whole organism. If there is not much debility, it is probable that the patient will bear greater exertion without injury, and we may give medicines to excite uterine contraction, such as *Secale cornutum*, *Tinct. Cinnamomi*, *Naptha*, &c. Some practitioners deny the efficacy of these

medicines, but experience is in their favour; and they are prejudicial only when the debility is too great, or the labour is delayed by want of space, or by a plethoric condition of the uterus, or when they are incompatible with the constitution of the patient. The woman may now be encouraged to assist her pains; and the ergot may be given either in powder, in doses of 10 or 15 grains, or as an infusion made with half a drachm or a drachm in four ounces of water, and taken by spoonful; or in the form of tincture, which, when recently prepared, proves very effectual.\* If the patient be faint, a dose of ether may be added. Gentle frictions over the fundus uteri with the hand or flannel, and occasionally with lin: ammon: or spirit of wine may be employed externally. If, in spite of these measures, the pains do not increase in power, and the labour does not advance; or if, from the very first, the woman is so weak that the employment of stimulating measures appears inadmissible, the labour must be completed artificially, by means of the forceps, or by extraction, if the lower extremities present. As regards the management of the fifth stage, when the symptoms do not render the immediate removal of the placenta necessary, we may wait from three to six hours before passing the hand into the uterus to take it away, as it generally happens that nature will effect its expulsion before that time. After the expulsion of the child we let the patient rest for a while, and content ourselves with watching carefully, lest any dangerous symptoms make their appearance,—giving the uterus time to recover itself after the exertion of labour. After the lapse of an hour, or when the woman has rallied, we endeavour to excite contraction by gentle friction over the uterus, drawing very gently upon the cord, and giving a few drops of some diffusible stimulant; we then wait some time for these means to take effect, and resort to the artificial removal of the placenta only after being convinced of their insufficiency. It frequently happens, however, that symptoms arise, demanding instant attention, and the immediate removal of the placenta. Of these, hæmorrhage is by far the most important. If this happens, we must endeavour, both by internal and external means, to excite contraction of the uterus; but the most secure method of arresting the hæmorrhage will be to remove the afterbirth; and this must not be delayed too long, else the debility may become so urgent as to make the operation itself dangerous to life. If, after the birth of the child, the mother is in a fainting condition, we must, in the first place, endeavour to remove this faintness by appropriate remedies, and then turn our attention to the extraction of the placenta. In adynamia uteri the patient must be watched some time after the labour is completed; for hæmorrhage may appear at a later period, owing to the after-pains necessary for the contraction of the uterus not taking place, and the vessels consequently remaining imperfectly closed. This is especially to be feared when the uterus, instead of being contracted after the expulsion of the placenta, remains expanded and flabby. In such a case the mineral acids in moderate doses, and the Tinct. Cinnamomi, Ratanhiæ, Chinæ, &c., are particularly indicated; yet we must be cautious in the use of them, and discontinue them as soon as the uterus is sufficiently contracted, lest they interfere with the nor-

\* We doubt the Tincture and object to the Powder. The Infusion alone, in our opinion, is the most admissible, with Boras. Sedæ.—Ed.

mal discharge of the lochia. In some cases a more paralysed condition of the nervous system makes its appearance, under which the patient, even when no hæmorrhage occurs, seems debilitated in the highest degree. Here we must depend chiefly upon the efforts of nature, and nourishing diet. Stimulants are admissible only in very small doses. (*This article, translated from Busch and Moser, by E. Copeland, M.D., Norwich.*) The following authors may be consulted on this question:—G. Watts, *Reflections on Painful Labours*, London, 1755; Bilfinger, C. F. A., *præc.*, *Alifeld de doloribus in partu silentibus variisque eos excitandi modis*. Giess, 1770; W. G. Fleming, *Specimen de atonia uteri*, Lips., 1776; William Osborne's *Essay on Laborious Parturition*, London, 1783; Dr. Merriman's *Synopsis of Difficult Parturition*, London, 1814; W. P. Dewees' *Essay on Lessening Pain in Difficult Parturition*, Philadelphia, 1818; P. Nuss. *diss. de partibus difficilibus*, &c., Heidelberg, 1819; Schmidt, *Heidelberger Klinische Annal.* B. 1. 1825, 4to. H. ft. *Couture Journal Hebdomadaire de Med.* T. 1. 1828, p. 304; Hüter C. C., *Die Dynamischen Geburtsstörungen*, 2 The., Berlin, 1830; Nägele, F. W. *Lehrbuch, der Geburtshülfe für Hebammen*, Heidelb., 1830, 4to Aufl., 1840.

**Adynatus.**—A term formerly in use, signifying impotency.

**Ædus** of amida. See article *Ætius*.

**Ædoitis.**—(From *αἰδοία* the parts of generation.)—*Ædoite* F.,—*Ædoitis* f. L.—A term expressive of inflammation of the external organs of generation.

**Ædoiographia.**—(From *αἰδοία* the pudenda and *γραφω* to describe.)—*Ædoiographie* F.,—*Ædoiographia* L.—The description of the organs of generation.

**Ædoiotomy.**—(From *αἰδοία* and *τεμνω* to cut.)—The anatomy of the organs of generation.

**Ædoia.**—The pudenda or private parts.

**Ædoiologia.**—(From *αἰδοία* and *λογος* a discourse.)—*Ædoiologie* F., *ædoiologia* L. A treatise or discourse on the genital organs.

**Ædoiopoeia.**—(From *αἰδοία* and *ποιεω* to make a noise.) The sound made by the supposed escape of wind from the bladder through the urethra, or from the womb, through the vagina. Both positions, physiologically speaking, want confirmation.

**Ægyptus Pessus.**—An Egyptian pessary, made of honey, turpentine, butter, oil of lilies or roses, saffron, and a little verdigris.

**Æon.**—(From *ἄων*) signifies the whole age of man, from birth till death; anatomically, the spinal marrow.

**Æchos.**—A term in use by the Hippocratic school to express deformity.

**Æther.**—Vide *Ether*.

**Ætas.**—(as. tis. f.; quasi ævitas, from ævum age.) In the writings of the old schools of philosophy the life of a human being was divided into six æras, or stages. 1. *Infantia*, from birth to the fifth year. 2. *Adolescentia*, youth, from the fifth to the eighteenth or twenty-fifth year. 3. *Juventus*, from the twenty-fifth to the thirty-fifth year. 4. *Virilis*, manhood, from the thirty-fifth to the fiftieth year. 5. *Senectus*, old age, from fifty to sixty. 6. *Crepita*, decrepit age, ending in natural death from declining power and faculties. For extensive observations on this topic see article *Age*.

**Ætius.**—Amydemus, an eminent physician, flourished, some say, about A.D. 880; others, A.D. 560. He was a disciple of Galen, and resided in Mesopo-

tania; was the first Christian physician whose works have come down to our time; at the period he wrote his observations on obstetric practice, they were more correct than any which preceded his day, and are included in the *Libri Medicinalis, Græc. Venetus ap Aldum, Mense, September, 1534.* Aëtius studied at Alexandria. His works, as a whole, display no great judgment in choice, but are valuable as containing much matter not found elsewhere. One thing remarkable in the author is the honorable mention of all names from whose works he quoted—a good lesson for modern authors.

**Affusion.**—(Affundere, to pour upon.) Affusio L., affusion F. The application of water poured upon any part of the body. Most generally in use to restrain hæmorrhage, as in uterine hæmorrhage, menorrhagia, &c. The propriety and abuse of such means will be discussed under the titles of the various circumstances for which this remedy is deemed necessary as a curative.

**Afterbirth.**—*Vide* article *placenta*.

**Afterpains.**—Pains arising from the continued action of the uterus, subsequent to delivery. Uterine action does not in all cases (indeed, comparatively few,) cease after its usual contents are expelled; and every contraction subsequent to delivery is accompanied with more or less pain, denominated afterpains. **Ordinary afterpains.**—After delivery of the first child, women rarely suffer from what are termed afterpains; why, it is perhaps not so easy to explain, unless there is greater energy of uterine action in early life, enabling the uterus to clear out its contents more effectually, and by the same energy prevent the formation of coagulæ within the uterine cavity, which invariably produce pain. After second confinements these pains are not very common; but subsequent labours are scarcely ever without more or less of them. **Cause of afterpains.** The most usual are coagulæ within the uterine cavity, proving a source of irritation, followed by frequent contractions or efforts to expel the clots formed. Dr. Burton, in 1751, is said to have proved that these pains arise also from little plugs of coagulated blood, which fill the sinuses opening upon the internal surface of the uterus. Dr. Rigby is of the same opinion. If it be a fact such sinuses exist, the filling of them by coagulæ is undeniable. Hence, the pains being perhaps more distressing from the repeated and often ineffectual efforts to eject the coagulæ. After all, we think such sinuses doubtful. Small portions of the placental membranes left behind frequently prove the cause of distressing afterpains. It is possible, however, they may arise without any coagulæ, simply from want of tone in the uterine fibres, which, when contracted, have not power to remain so, but relax and contract alternately,—continuing until the system has rallied. Another cause of afterpains is the putting the child to the breast. Rapid deliveries are generally followed by afterpains; whilst, on the contrary, when the uterus is slowly emptied of its contents, and allowed to contract gradually and uniformly, there is less liability to afterpains. Warm drinks also increase their intensity. The great means of relief in these cases is to give an opiate. Dr. Blundell advises thirty drops of tincture of opium in one ounce of camphor mixture (why the stimulating camphor mixture we cannot guess.) We prefer one grain, or one and a half of solid opium, when an opiate is deemed necessary; but it must be borne in mind that afterpains of a moderate character have rather a salutary tendency than otherwise, and therefore should not be treated as an

evil too soon,—there being no doubt but that the retention of those coagula, which the object of these pains is to get rid of, would tend to attacks of inflammation, and, what is worse, puerperal fever; therefore it is advisable not to be too hasty in the exhibition of opiates after delivery. This was the opinion of Dr. Burton so early as 1751, and has been confirmed by ample experience. When opiates are given, it is also necessary to know that there exist no accumulations in the passages, vaginal or rectal. Dr. Rigby prefers Hyoscyamus, Lettuce, or Hop Extract. They will certainly calm the irritability, and procure sleep; but those preparations are so variable and uncertain, that we still prefer opium, with the necessary caution. As a general rule, one hour at least should elapse after delivery before an opiate is given for this species of pain.

**Afterpains.—Sub-inflammatory.**—Sometimes there is a kind of sub-inflammatory afterpain, under which the suffering is considerable. If puerperal fever be in the neighbourhood, there is a probability of that dreadful malady being ushered in; but if, on examination, you find a pulse of little more than 100, the uterus a little hard under the touch, with a slight tenderness on compression, and absence of chills, there is no great reason for being alarmed, or creating any alarm in others, although the symptoms indicate a subdued type of puerperal fever, which is apt, on neglect, to break out into a severer form of inflammation or fever. Ten or twenty leeches over the uterine region, followed by active fomentations, the bowels rapidly cleared out, and occasionally general bleeding, will generally suffice to place the patient out of danger. Opium has been recommended, but anodynes of every sort can only be occasionally used, in junction with other remedies, and then with great caution.

**Afterpains.—Spasmodic.**—There is also a species of afterpain which causes much trouble for two or three days after delivery. The suffering is very severe, still free from inflammatory symptoms, and often arising from a retained portion of the placenta or membranes, or concretion of blood. After suffering severely for a day or two, the substance is thrown off, and with its ejection the suffering terminates. Cases of this nature have occurred where no substance has been ejected. Vide Blundell's Principles and Practice, p. 608. The treatment consists of first clearing out the bowels, then an effective opiate, 60 or 80 drops, or, what is still better, 2 or 2½ grs. of solid opium in pill. A little patience will often eject the offending clot, without the necessity of such active practice. Leeches have also been advised, we believe, not very happily. On the whole, interference can only be justifiable when the sufferings are extreme, and the female impatient and exhausted.

**Afterpains.—Diagnosis of.**—It is necessary to distinguish pure afterpains from those of an inflammatory nature, which is not difficult. In inflammation of the uterus, ovary, &c., there are chills, accompanied with dry heat, tenderness, and a characteristic pulse, from 120 to 140. In pure afterpains it is almost always within the 100, even though there be very considerable irritability. Spasmodic pains of other abdominal viscera might possibly, though not probably, be mistaken for afterpains; such as the bladder, bowels, and even the very rare spasmodic affections of the ureters and gall duct. On this subject consult Smellie, Denman, Burton, Blundell, Rigby, Campbell, Ramsbotham, and many others.

**Agalacty.**—(From a priv., γαλα milk.) *Agalactia* f. L., *agalactie* a. f. F., der mangel an milch ausbleiben der milch in den brüsten, nach der nieder kunft. G.; want of milk, absence of milk from the breasts after delivery. Synonymous with *agalaxy*, *agalaxie* F.

**Agalactation.**—Vide article *Ablactation*.

**Agalaxy.**—Vide article *Agalacty*.

**Agalorrhæa.**—(From a priv., γαλα milk, ρεω I flow.) Cessation of the flow of milk from the breast; differs from *Agalacty*, which implies absence of secretion; whereas *Agalorrhæa* signifies suppression of the secretion after it has existed.

**Age.**—*Ætas* f. L., *âge* F., *alter* G. The measure of time from birth to death, or from birth to any intermediate period of living beings. Particular periods of life in the animal kingdom are characterised by a particular state of organisation. From the instant of formation to that of death, the structure of all living beings undergoes successive changes, the examination of which serves to determine the age of the individual—a matter of considerable importance to every medical practitioner, and to the obstetrician more particularly. The age of the fetus in utero must, if possible, be dated from the moment of impregnation, and not from its first descent into the uterine cavity. The evidence on this point, however, is of so limited an extent, that we must base our calculations on the best information we can procure. Authors vary considerably in their classification as to age. Some divide life into three sections or epochs: 1st, The age of increase; 2nd, The stationary period; 3rd, The period of decrease. Others take the genital system (also three periods): 1st, Genital power not developed; 2nd, When its existence is most powerful; 3rd, When the power is extinct. Others again take septennial periods, which appear to correspond to the various changes which take place at certain periods, viz., at the 7th year, second dentition; 14th, Puberty; 21st, Virility, &c. So far the system answers well, but is deficient to the latter periods of life; not but that there exist important changes, but they run so gradually into each other, as to form no distinctive periods. Then, again, the periods of sevens will not apply to the changes caused by temperature, situation, climate, &c. Waller divides life into infancy, youth, adult, and old age, which, after all, appears most reasonable. During the various periods of life, many remarkable changes occur. These, conformably to the laws imposed by nature, are owing to the circumstance, that each principal organ increases with more or less rapidity, enjoys a preponderating activity for a longer or shorter period, then becomes for a time stationary, and finally declines, until its excitability is altogether extinguished. This is the law of all organs. They begin, develop, are developed, decline, and die. The most brilliant period of life is that in which the greatest possible number of organs are exercising, at the same time, their functions with ease and energy. It is probable that an exact period between growth and decline exists; but, after the most scrutinising observations, it cannot be precisely ascertained. Nothing is arrested, each day some modifications take place in the organs, to which the physiologist and the practitioner should pay attention. But the ascending movement, or that of development and perfection rapidly begun, gradually diminishes as it advances towards a ripe age, whilst that of decline, at first scarcely evident, increases more and

more as life draws to a close. The termination of the first, and the commencement of the second epoch, (after the period during which changes in the animal economy take place slowly) in the eyes of common observers, the progress appears arrested, but this illusion is not participated in by judicious minds.

In infants and youths, the greater part of lesions attendant on the development of organs, depends on the anormal distribution of organic actions; and the super-excitation of some organs at the expense of the others. Thus, when the encephalon is too constantly excited, the head increases in size beyond measure, and dispositions favourable to convulsions, hydrocephalus, &c., are developed. So likewise when the abdominal viscera are constantly stimulated, they are kept in a state of irritation, and the mesenteric glands become enlarged and diseased; and in the meantime the other organs do not increase properly, but remain in a state of languor and debility. The chest, more especially, does not acquire its proper size, so that the lungs, not being capable of giving a passage to the quantity of blood put in motion by the heart, redouble their efforts, are more and more excited, and contract easily the most serious acute irritations, or slowly disorganize under the influence of continued stimulation. To regulate the growth, and watch, so that all the organs enjoy in their turn the degree of activity and vital energy required by nature, is the fundamental basis of hygiene in the first ages of life. Withdraw all stimulants from the super-excited organs, and keep them in complete repose, at the same time develope, and gradually increase, the powers of the organs hitherto not excited, and this will arrest the unequal partition of organic activity; even if the super-excitation of the one organ cannot be diminished, the others being raised in energy, will cause the re-establishment of the equilibrium. In all the periods of life, and especially the adult, wisdom advises us to use things in moderation, and, without exciting the organs, they should be gradually accustomed to that degree of stimulation from which they cannot be withdrawn, otherwise the individual would be constantly in danger of a serious attack from the effects of a sudden stimulation to which he is unaccustomed. Privation and excess are equally injurious. In the decline of life the rules to be observed are more severe, and their neglect is more dangerous. Those organs which are worn out by the continued exercise of their functions, are to be guarded from great excitement; if the brain is menaced with sanguineous congestion, in consequence of active intellectual labour, this must be diminished, or altogether ended, the muscles put in action, and agreeable distractions sought for. If the lungs or heart are irritated or diseased, the patient must keep silent; he must be forbidden violent exercise, and all excitants of the passions avoided. According to the same principles, affections of the digestive and genital apparatus, the liver, kidneys, muscles, articulations, &c., are to be treated; in a word, the nearer life draws to a close, the more attentive must we be to preserve the remainder, by affording repose as long as possible to the instruments which keep it in existence. Therapeutics, we find, are modified according to age; the younger the patient, and the more delicate the organs, the more necessary are precautions and prudence in exhibiting medicine. Violent measures must be avoided; the diseases of infancy can generally be treated by simple measures, such as abstinence, demulcent drinks, baths, sanguineous evacuations, and revulsives, proportioning the energy of these measures to the weakness of the nervous



susceptibility of the patient. As the animal organization is developed, its powers are greater, and greater vigour and boldness can be exerted in disease. The symptoms are more violent, re-action more intense, and consequently they require energetic measures for their removal, still in proportion to the strength of the patient, and then to be continued, or repeated at need. As old age advances, the state of the organs requires the practitioner's especial care. It is rare that an old man has passed through life without illness, and rarer still when these illnesses leave no traces or lesions behind. These should be attended to; and in combating a recent affection, we must not endeavour to restore parts to that healthy action to which they have long been strangers. Neither sanguineous evacuations, abstinence, nor revulsives, are to be dreaded, but their energy is to be proportioned, on the one hand to the violence of the disease—on the other to the degree of weakness or exhaustion of the individual, and to the more or less facility with which nutrition goes on, and can supply the losses inflicted. At the end of his career, man becomes every day less and less susceptible of re-action, and less capable of replacing the nutritive materials of which he is deprived. Whilst, therefore, disease is properly treated, it is necessary to respect the little power he may have left, and not to compromise, by a too powerful medication, the breath of a life which yet remains to him.

**Age.**—(*State Medicine.*)—In questions of abortion, infanticide, violation, violent death, &c., it may be necessary to determine the age of the individual. An acquaintance with the indications by which we can recognize the age of an individual is then of the deepest importance to a physician; for although a magistrate may, on some occasions, be guided by collateral evidence, as well as medical information, yet, in many cases, he is obliged to depend entirely on the latter. The periods of life proceed in the uterus, and out of it. The different phases of the intra-uterine life are only indicated by the relative development of the organs, but also those of extra-uterine life are drawn not only from this order of proofs, but from the exercise of the functions of relation, which give rise to a great number of facts of which many individuals have been witnesses. Beclard, Chaussier, Lobstein, Meckel, and Oken, have laid down the principal signs by which we can distinguish the age of the fetus at the different epochs of intra-uterine life. **HOW TO DETERMINE THE AGE OF THE FÆTUS DURING THE DIFFERENT EPOCHS OF INTRA-UTERINE LIFE.**—Opinions vary considerably as to the date after fecundation, when the embryo can be found in the womb, but, as in state medicine, the conclusions drawn must be positive, we can only describe the existence of pregnancy in case a well-formed fetus has been found. The detail of the signs by which the age can be ascertained, will commence with those of a fetus of one month. A FÆTUS OF ONE MONTH is seven or eight lines long, and weighs about nineteen grains; head visible, forming half the body; the eyes, two little black, round points, placed laterally, and at a certain distance from each other, and surrounded by a small membranous circle, representing the eyelids; the mouth appears triangular, and the tongue can be readily distinguished; a quadrangular opening, behind and below the lower jaw, indicates the situation of the external auditory meatus; the brain is represented by a little grey mass; the spinal marrow is very evident; the heart cannot be distinguished, and the liver appears to fill up the whole abdomen;

the placenta consists only of that portion of the chorion which is attached to the uterus; the umbilical cord is seven or eight lines long, thick, and semi-transparent. **FÆTUS OF TWO MONTHS.**—Two inches in length, from one ounce to one and a half in weight; head very large; extremities visible; fingers and toes distinct, not united by membrane, as has been supposed; eyes prominent, partly closed; nose closed and distinct; ear well-formed; the long bones, ilia, occipital, and frontal bones, not ossified; lungs, heart, pulmonary artery, and even some of its branches, apparent; kidneys formed by the union of numerous smaller glands; the testicles just below the kidneys; the uterus, penis, and clitoris, distinct; placenta circumscribed; and the cord begins to twist. **FÆTUS OF THREE MONTHS.**—Four inches long; neck a line and a half long; weight from two and a half to three ounces; head heavier than the rest of the body; pupils closed by the membrana pupillaris; eyelids closed; velum palati closed; mouth large; lips well-formed; ischium not ossified; ileo cœcal valve, cartilaginous rings of the bronchii, ventricles, and auricles of the heart, very evident; placenta distinct. **FÆTUS OF FOUR MONTHS.**—Five to six inches long; five to seven ounces in weight; skin slightly red, rather dense; menconium in the small intestines; the brain presents inter-lobular depression; small bones of the ear ossified; sacral vertebrae beginning to be ossified; kidneys voluminous; supra renal capsules as large as the kidneys. **FÆTUS OF FIVE MONTHS.**—Eight inches long; head to the body as one to three; weighs one pound; head covered with short scattered hair; appearance of sub-cutaneous fat; nails distinct; circle of tympanum completely ossified; lungs small; heart voluminous; canalis arteriosus, and pulmonary arteries, equal in development; gall bladder perceptible; muscles becoming fibrous. **FÆTUS OF SIX MONTHS.**—Ten or eleven inches long; head to the body as one to four; weight two pounds; eyelids still closed; three or four portions of sternum present points of ossification; menconium of a deeper colour found in the cœcum; lungs small and reddish; bronchia distinct; gall bladder containing a serous, colourless fluid, without any bitter taste; testes withdrawing from the kidneys, which present a cortical appearance; the brain a greyish mass. **FÆTUS OF SEVEN MONTHS.**—Thirteen or fourteen inches long; head to the body one to five; three to four pounds weight; skin reddish and fibrous, beginning to be covered with a sebaceous substance; eyelids no longer closed; membrana pupillaris not so evident; menconium filling the whole intestine; the valvula conniventes begin to show themselves; cœcum located in the right iliac fossa; left lobe of the liver almost as large as the right; gall bladder contains bile; brain more consistent, but still has no medullary portion; testes farther distant from the kidneys. **FÆTUS OF EIGHT MONTHS.**—Fifteen to sixteen inches long; from four to five pounds weight; sebaceous substance on the skin more distinct; nails fully formed; pupillary membrane disappearing; brain divided into lobes, but no medullary portion; testes in the sub-pubic ring. **FÆTUS OF NINE MONTHS.**—Sixteen to eighteen inches long; six and a quarter to seven pounds weight. *Head diameters*,—occipito frontal, four inches three lines; occipito mental, five inches; fronto mental, three inches six lines; bi-parietal, three inches four lines; temporal, three inches one line; great circumference, fourteen inches; transverse, ten inches six lines; covered more or less with hair; these

diameters are not constant, some variation must be admitted; skin covered with sebaceous matter; superior extremities longer than the inferior; the membrana pupillaris vanished; the external auditory meatus cartilaginous; the four portions of the occipital bone distinct; os hyoides not ossified; the lower end of the former has a point of ossification; the only bone which has an epiphysis; the brain has some portion of medullary matter; the liver descends as far as the umbilicus; the testes have descended below the inguinal ring, and may even be found in the scrotum. The examination of the placenta and the other fetal appendages is seldom available, as they are generally thrown away, or are found in a decomposed state. The umbilical vesicle is proportionately greater, the smaller the fetus, and at first probably exceeds it in size; it then lies close to the anterior surface of the embryo, but after the first month moves from it, and lies beyond the navel sheath; the membrane forming it then gradually shrivels up, and the fluid contained in it is by degrees absorbed. In a very few instances it remains to the end of pregnancy. The umbilical cord is at first considerably thicker than at a later period, and its vessels are straight; after the second month they gradually assume their spiral direction. The length of the fetus at the different periods of pregnancy has been stated by different writers as follows:—

TABLE I.—MEASUREMENT.

CHAUSSIER.	VELPEAU.	LEVRET.	DEVERGIE.	BURDACH.
5th mo... 9 in.	12th day...3 lns.	8th day...5-6 lns.	1st mo...7-8 lns.	3-5 wk...1-3 lns.
6th „ ...12 in.	12-20 „5-6 „	15th „ ... 1 in.	2nd „ ... 2 in.	5th „ ...3-5 „
7th „ ...14 „	4th wk. 8-10 „	21st „ ... 1½ „	3rd „ ... 4 „	6th „ ... 7 „
8th „ ...16 „	6th „ 1in. 15 „	1st mo... 2 „	4th „ ...5-6 „	7th „ ... 9 „
9th „ ...18 „	8th „ 1 „ 24 „	2nd „ ... 4 „	5th „ ... 8 „	8th „ ... 12 „
	3rd mo. 3 in.	3rd „ ... 6 „	6th „ 7-11 „	9th „ ... 15 „
	4th „ 5 „	4th „ ... 8 „	7th „ 13-14 „	10th „ ... 2 in.
	5th „ 6-7 „	5th „ ... 10 „	8th „ 15-16 „	11th „ ... 2½ „
	6th „ 8-9 „	6th „ ... 12 „	9th „ 16-18 „	12th „ ... 2½ „
	7th „ 9-10 „	7th „ ... 14 „		4th mo... 4 „
	8th „ 10-11 „	8th „ ... 16 „		5th „ ...5-7 „
	9th „ 11-12 „	9th „ ... 18 „		6th „ ... 12 „
				7th „ ... 15 „
				8th „ 16-17 „
				9th „ 17-18 „
				10th „ 18-20 „

TABLE II.—WEIGHT.

CHAUSSIER.	BURDACH.	DEVERGIE.
10th day..... 1 gr.	3-5 week.....1-3 gr.	1st mo..... 19 gr.
20th „ ..... 3 „	5-8 „ ..... 1 dr.	2nd „ ..... 1-2½ oz.
30th „ .....19 „	3rd mo..... 1 oz.	3rd „ ..... 2½ „
45th „ ..... 1½ dr.	4th „ ..... 2 „	4th „ ..... 5-6 „
60th „ ..... 5 „	5th „ .....5-8 „	5th „ ..... 1 lb.
90th „ ..... 2½ oz.	6th „ ... 12-16 „	6th „ ..... 2 „
120th „ ..... 7 „	7th „ ..... 2 lbs.	7th „ ..... 3-4 „
150th „ ..... 1 lb.	8th „ .....3-4 „	8th „ ..... 4-5 „
180th „ ..... 2 „	9th „ .....5-6 „	9th „ ..... 6½ „
210th „ ..... 3 „	10th „ .....6-7 „	
240th „ ..... 4 „		
270th „ ..... 5 „		

These signs are not to be regarded as completely certain; there is room for further researches. The medical jurist, in ascertaining the age of a fetus, should examine, in the first place, the appendages: 1st, the size and consistency of the placenta; 2ndly, the appearance of the membranes; 3rdly, the umbilical vesicle and its vessels; 4thly, the cord, as regards its length and degree of torsion. Secondly, and in regard to the fetus itself:—1st, the weight; 2ndly, the length; 3rdly, the insertion of the cord; 4thly, the colour, density, and the state of the sebaceous matter on the skin; 5thly, length and density of the nails; 6thly, state of the eyes and eyelids, existence or non-existence of the *membrana pupillaris*; 7thly, whether nares be closed or not; 8thly, the mouth; 9thly, conformation of the ears; 10thly, in the abdomen, the length and volume of the digestive apparatus, situation of the cæcum, existence of the *valvule coniventes*, situation of the menconium in the intestines; 11thly, liver and gall bladder; 12thly, kidneys and their capsules; 13thly, the testes or the uterus; 14thly, the heart, relative development of its cavities, arteries arising from it, the *canall arteriosus*, lungs, trachea, and bronchi; 15thly, the muscular tissue; 16thly, the osseous system; 17thly, relative development of the limbs.

THE DETERMINATION OF AGE IN EXTRA-UTERINE LIFE.—Although this object is difficult in regard to intra-uterine, it is much more so in extra-uterine life. In the first case the subject is almost always dead, and we are to make our examination more extensive: the development of organs takes place with great rapidity, and leaves appreciable changes. In the second case, besides that the individual may be alive, there is an epoch of life which leaves no traces except on the *ensemble* of the person, and the indices of which are less easy to grasp, as they are more disseminated. Extra-uterine life has been divided into several epochs. 1st, the first infancy, which ends at the seventh year; 2ndly, the second infancy, which terminates at the twelfth year for girls, the fifteenth for boys; 3rdly, adolescence or youth, which ends at the twenty-fifth year; 4thly, the adult age, which is prolonged to 60, when old age commences. The first period is divided into three epochs:—1st, from the birth to the seventh month; 2ndly, from the seventh month to the second year; 3rdly, from the second year to the seventh. Orfila, in his lectures on State Medicine, impresses forcibly the importance of ascertaining the age of new-born infants in regard to questions of infanticide; and, consequently, we shall here give the results of M.M. Denis and Billard's labours on this subject. In the new-born infant the cord is fresh, firm, bluish, and round; it contains more or less of Warton's gelatine; its vessels still contain some blood. That part of the cord which is inserted in the umbilicus is called the base, the other end is called the top, or apex. The *first* sensible *phenomenon* which takes place after the section of the cord, is its *shrinkelling*, and this occurs from the top to the base; it commences within a few hours after birth, and is always complete within *thirty hours*, or *two days* at the furthest. The cord is then soft, and an areola frequently forms around the base. The *second phenomenon* is its *dessication*. The cord assumes a brownish hue from the apex towards the base, becomes semi-transparent, and loses Warton's gelatine. Its vessels are flat, and contain a little coagulated blood; but are frequently obliterated. Dessication commences on the first or second day, and is complete by the third. It may take place during life, or after death; but in the latter case, the cord

becomes greyish; its envelope appears like a dried and blown-up pellicle; the calibre of the vessels has not much diminished. In opening the body the absence of meconium and urine indicate that the child has lived.

*Third phenomenon—fall of the cord.*—This occurs from the fourth to the sixth day; it is gradually separated by erosion; the vein is the last part severed. If there is a sero-purulent discharge, the traces of inflammation continue till the tenth or twelfth day, when the fourth phenomenon, cicatrization, takes place. If there was no discharge, it may occur before the tenth day; but if there was, it may be protracted beyond the twelfth day. A real mucous sac is formed, with which the vessels communicate by a free opening.

*Fifth order of the phenomena—occlusion of the vessels, contraction of the mucous sac.* These phenomena take place from the twelfth to the thirtieth day. The umbilical arteries and vein become fibrous cords; but this process is longest in the vein, and the sac becomes contracted. The epidermis is gradually separating.

*The sixth order of phenomena—complete disappearance of the sac, umbilical cicatrix permanent.*—This seldom occurs before the fortieth day, when the desquamation of the epidermis is complete. From the forty-fifth day after birth, to the seventh year, it is difficult to ascertain the age of a child. The constant habit of observing infants, will alone enable one to guess at all near the true age; but these indications vary considerably, such as the facility with which the child's attention is fixed, its strength, intelligence, duration of its sleep, its attention to surrounding objects; and of course these indications are no guide to us in dead children. The first teeth generally appear towards the seventh or eighth month, and proceed in the following order:—The middle inferior, and superior, incisors, then the lateral incisors of each jaw; the first molar between the fifteenth and eighteenth month; then the canine and the second molar; the milk teeth, twenty in number, are generally complete at two and a half years old. These teeth may be readily recognised, as they are of a bluish white colour, which makes them appear semi-transparent; the incisors very small and blunt. The first molars have four tubercles, on the crown; those of the second dentition have only two; the second molar teeth of the first dentition have five tubercles, of the second only two. At one year we find, according to Bèclard, a point of ossification in the epiphyses of the humerus, ulna, femur, and tibia, and the posterior arch of the vertebrae is complete. At two years we have a point of ossification in the epiphyses of the radius and fibula; at two and a half the great tubercle of the humerus and patella are ossified, and the vertebral canal is complete; at three years there is a point of ossification in the great trochanter, and in the os pyramidalis carpi; at four years in the second and third cuneiform of the tarsus; at four and a half the three molar teeth appear; at five the trapezium and semi-lunar bones of the wrist, and the scaphoid of the tarsus, are ossified: at six the ramus descendens pubis, and ascendens ischii, unite; at seven the teeth begin to fall out, but very slowly, and in the order of their appearance. The fall of the teeth is the principal sign of the second stage of life. The fourth molar appears between the eighth and ninth year, and about the same time, the scaphoides carpi becomes ossified. At nine the ilium, ischium, and pubis, unite in the acetabulum, and the incisors, canine, and the first and second molar teeth of the second dentition, have generally appeared. At twelve the

os pisiformis is ossified. From *thirteen to fourteen* the three portions of the os innominatum are generally united, and so likewise the minor trochanter and neck of the femur, are consolidated. At *fifteen* the coracoid process is united to the scapula; at *sixteen*, the olecranon to the ulna. Between *eighteen and twenty*, the dens sapientiæ appear, and between that period and the *twenty-fifth* year, the different epiphyses become consolidated with their respective bones. It is impossible to furnish indications to ascertain the other ages of life, for although there are doubtless marked differences between the organs of a youth and an old man, yet they take place so gradually, that the time of their appearance cannot be fixed. We have thus described those perceptible external appearances in the fœtus which betoken its age, according to the statements of the best anatomists. As regards the development of the internal organs, and the signs by which they may be recognised, we refer to the article *Fœtus*, where a full account will be given of all the changes which take place during foetal life. The above data for determining the age of a fœtus cannot, however, be relied upon unconditionally, for the development of individual parts sometimes proceeds more slowly, sometimes more rapidly; as a rule, they can be regarded only as affording an approximate estimate of its age. The physician, whose decision may frequently be of very great importance, ought therefore to examine very carefully each individual part, and never judge from one sign alone; and even when many signs accord, he must keep in remembrance the possible variations of development. The period of pregnancy, when this can be determined, is also to be taken into consideration. In some cases the physician is required to determine the age of a fœtus from a single discovered portion; a thorough knowledge of anatomy can here alone guide him, and in such a case the appearance of the bones is found to be the most secure point of support. On the subject of age a great number of excellent authors may be consulted with advantage, both in reference to its legal, physiological, and anatomical consideration. *Vide* Scriptores Medicinæ Forensis. Crellius, Diss. de jure Ætatis, Lipsiæ 1724. Ploucquet, Diss. Tub, 1778. Wiegandt Diss. de jure Ætatis Arg., 1701, and every work, ancient and modern, on medical jurisprudence. On the anatomical and physiological changes. Beumer, Diss. Lug Batav, 1752. Buchner, Diss. Hal, 1749. Diss. Varia Medend Methodo Hal, 1752. Camerarius Mein., Cent xvii. et seq. Collier Diss., Paris, 1617. Hoffman Diss., Hal. 1728, do., 1729. Juch Diss., Erf, 1733. Kannegiesser Diss., Kilon, 1765. Lalamantius, Genev., 1571. Linnæus Diss., Vol. 7. Münster Disput. Libri V. Pollis Diss., Lipsiæ, 1630. Posewitz, 1667. Reinharth Diss., Erf, 1728. Salzmann, Diss., Arg, 1715. Schelhammer Diss., Jen., 1694. Schmidt Diss., Lipsiæ, 1655. Strehelin Diss., Basil, 1755. Stahl Diss., Hal, 1693. Stewart Diss., Edin., 1753. Telkemit Diss., Elbing, 1751. Zentgrav Diss., 1716, Arg. Zwinger Diss., a Hippocrates. Bourgoiu, Paris, 1589. Bryanton, Diss., Edin., 1795. Ellain Diss., Paris, 1611. Stahl Diss., Hal., 1698. We give this list of works not easily met with; we have not space for the many well known modern authorities. The principal part of this article on *Age* has been presented to us by Dr. Copeman, of Norwich, translated from the work of Busch and Moser. The rest has been translated from the writings of the celebrated Devergie by ourselves.

**Agnacal.**—A tree, which, according to some botanists, grows near the Isthmus of Darien, resembling a pear tree, the fruit of which is considered a provocative to venery.

**Agnesia.**—(a, æ, f.; from a neg. and *γενεσις* generation.) A term used to express impotence or sterility. Breschet uses this word to describe various anomalies of organisation, which consist in the absence of, or imperfect development of, parts.

**Agnodice.**—An Athenian virgin who disguised her sex, and, in male attire, learned medicine from the teachers of her time. She was taught by Hierophilus the art of midwifery, to which she was particularly partial, and, when employed, discovered her sex to her patients, in confidence. This plan gained her immense practice, so much, that the male practitioners accused her before the Areopagus, of corruption. She confessed her sex to the judges, and the law was immediately made to empower all free-born women to learn and practice the art of midwifery.

**Agnus Castus.**—(Called agnus, from *αγνος* sterile, because it was supposed to induce barrenness, and *Castus*, or chaste, for the same reason.) At the Thesmophoria, or feasts in honour of Ceres, the women used to strew their beds with this and other plants which were believed to favour chastity.

**Agnina Membrana.**—A term formerly applied to the Amnion.

**Agonia.**—Agone F. (*Αγονη* from a neg. and *γωρος* so called because it was supposed to cause barrenness,) and is known to the moderns as Henbane.

**Agrippa.**—(*αγρᾱ* capture, *πους* foot.) A name given to the fetus when, instead of the natural presentation of the head, it is born with feet foremost. This name was given by the Romans to Marcus Agrippa, in consequence of his birth being marked by that circumstance. Herodes Agrippa, son of the first Herod, derived his name also from the same cause.

**Aikin, Chas. R.**—Surgeon, son of Dr. Aikin, and secretary to the Medico Chirurgical Society of London, wrote "A concise view of all the most important facts that have hitherto appeared respecting the Cow Pox.

**Air.**—"It is of equal importance to attend to air as to heat and light in the nursing of children. The purity of the air in which the child resides and sleeps should be secured, by providing means of ventilation, and by restricting the number of individuals in the apartment to the smallest number. Agitation of the atmosphere is necessary, therefore the nursery should be large and not in attic stories, if there are many exhalations of a noxious character in the rooms below. The nursery is not the only question in reference to air; it is of equal importance that a child should be taken out of doors, with due attention to clothing, and avoidance of strong currents or draughts, as well as moist exhalations." (From Evanson and Maunsell's Treatise on the Diseases of Children. Dublin, 1842.) Pure air is also equally necessary to the mother as to the child.

**Aitken Jno., M.D.**—An Edinburgh physician, and lecturer on midwifery in Edinburgh; known as the author of "Principles of Midwifery, or Puerperal Medicine." London, octavo, 1784, with a considerable number of illustrations, and portrait of the author. This work sets out with great pretensions, but ends as a mere syllabus of his lectures. At the concluding part he gives a list of his improvements in the different departments of medicine, surgery,

and midwifery. As regards the latter, every instrument used (to the amount of twenty) was subjected to his alterations, some not very wise ones, and others too much complicated. The obstetrical reader, on turning over the plates of Aitkin, will be surprised to find some of the most modern improvement faithfully depicted.

**Akakia, Martin.**—A physician to Henry III., and author of several publications. He was born in 1499,—died, 1580. He published a work on the Diseases of Women, which was reprinted by I. Spachius, 1597.

**Ala Vespertilionis.**—That part of the ligament of the womb which lies between the fallopian tube and the ovarium—so called from its resemblance to the wing of a bat.

**Alagus Os.**—An old name given to the os sacrum and the coccyx attached.

**Albagensi.**—The name given to the ossacrum by the Arabian writers; some of them, however, termed it *albagiari*.

**Albertus Magnus.**—A Dominican Bishop of Ratisbon, in the thirteenth century—practised medicine occasionally; his works were very extensive, some say twenty-one volumes folio. Edit. Lyons, 1651. There is so much of incredible romance scattered through his writings as to lessen their value very considerably, yet, it must be acknowledged, he was a great man, of original mind, and most powerful conceptions. Connected with the subjects of this author may be reckoned his very curious work entitled "*De Secretis Mulierum*," 1655.

**Albini.**—(Benardi Seigfriedi) Born A.D. 1683. Pupil of Boerhaave; professor of anatomy at Leyden for fifty years; died 1771. He was the most celebrated anatomist of his day, and was appointed professor at twenty years of age. His great work "*Tubulae Sceleti, &c.*," was far more correct than any other which preceded it; his works are at all times valuable for their beauty and correctness.

**Albosius, John.**—One of the authors of which mention is made in the collection of early obstetric writers, published by Wolphius in 1586, along with Platerus, Moschion, Cleopatra, Priscianus, Trotula, and many others. John Albosius, in that collection, is named as the author of a memoir of a child born at Sens converted into stone, known under the name of Lithopædium Senonense. This memoir is a great curiosity, and written in Latin, with an illustration (apparently on wood) of the female, in a reclining position, with a large abdominal section, from sternum to pubis, showing the uterus and fetus in situ.

**Albuchasis.**—*Albucasis*, vide article *Abûl Casim*. In addition to what was stated in the former article, it may be mentioned that this author's works (at least what are known) are published in the collections of Caspar Wolphius, and Israel Spachius. The chapters 71 to 78 treat of the diseases of females where surgery must be called in to aid. It is probable that the writings of this author were very extensive, as it is stated by Gerard, of Cremona, that the whole of what are generally esteemed his works, as translated in Wolphius, Spachius, and in the Venetian edition of 1500, form but about a thirtieth part of his writings.

**Alchemilla Vulgaris.**—A common plant, known popularly by the name of ladies' mantle. It was once held in high esteem as an astringent, and



particularly applicable to menorrhagia and fluor albus, or leucorrhœa. It is now fallen into disuse.

**Alexander Wm., M.D.**—Died at Edinburgh in 1788. Wrote on "Antiseptics," "Putrid Diseases," and a very learned and excellent work called "The History of Women from the earliest antiquity to the present;" in which the reader will find a fund of useful and interesting information, connected with almost every subject in reference to the female sex.

**Alhasba.**—An Arabic term for the measles.

**Alilat.**—A name of Lucina, or the goddess who was supposed to preside over childbirth.

**Allantoid Membrane.**—(αλλας, a sausage, εἶδος resemblance,—allantoides F. allantois, membrana, tunica, allantoidea, urinaria, farciminalis, L. wursthäutchen, f. G. An intra-uterine membrane, connected with the fetus of some animals, particularly with that of the cow, but it has not been found in the ape, dog, cat, hedgehog, &c., yet the existence of this membrane should not be denied on account of its not being capable of demonstration. Until very lately it was maintained that the human fetus formed another exception to the existence of this membrane, but the active and close observing anatomists Von Baer and Rathke, have actually demonstrated its existence in the human ovum. Still there are some modern authors not yet convinced of the fact. It forms a delicate membranous bag, communicating with the lower end of the intestine; it lies between the two uterine membranes *Chorion and Amnion*; and some authors contend that what are termed spurious waters are contained in the allantoid membrane, which by them is termed *liquor allantoides*. We (the Ed.) have often met with cases where, after a distinct rupture of the membrane, and escape of liquor amnii, a still perfect membrane with fluid retained within it presented before the child's head. Such cases would be very likely to prove satisfactorily the existence of the allantoid membrane, if we had an opportunity of examining it in situ. The existence of the allantoid membrane in the human ovum has long been inferred from the presence of a ligamentous cord, extending from the fundus of the bladder to the umbilicus, like the urachus in the lower animals, but from the extreme delicacy of this membrane, and from the cessation of its functions early in the period of uterogestation, it defied every attempt to discover it, until the gentlemen above alluded to satisfactorily exhibited it. It is stated to be composed of two laminae, an outer vascular, and an inner mucous, surface; this membrane is attached by its vascular surface to the chorion. The function of the membrana allantoidea is still involved in great obscurity in the lower animals, and, during the latter months it is supposed to be a receptaculum urine for the fetus. Still it is probable that it had another function in the earlier months, which progressive development has rendered unnecessary to be continued. It was supposed at one time to furnish nourishment to the ovum, which view is not probable. The most approved opinion is that drawn from analogy with the structure of other animals, which supposes that it effects some changes in the blood, similar to those which, at a later period, are effected by the placenta, and by the organs of respiration. In other words, that it is the respiratory organism for the early

months of utero-gestation. Mr. Dalrymple carefully examined the distribution of its vessels, and he states the arrangement to be exactly analogous to that at the bottom of the pulmonary cells of the frog, with the single exception of the larger size of the capillaries, and therefore, that the type of the vessels of the allantoid membrane is decidedly pulmonary. In some of the lower orders of animals, the function analogous to respiration is performed by organs at the inferior or caudal extremity,—thus the class of insect, hymenoptera, diptera, and spider tribe. Amongst the crustacea, the shrimp. In the mollusca, the cuttle-fish. In some animals in their early stage of formation, as the frog in the tadpole state. As the embryo progresses, other organs are substituted for the allantoid, whose functions are as temporary: of these (the branchial processes or gills) correspond with the organs of respiration in a lower class of animals, although higher in the scale than the analogies of the allantoid membrane. The branchial processes or gills have also been demonstrated beyond dispute by P. Rathke, in the several transverse, slit-like apertures on each side the neck of the fœtus in the early months of utero-gestation. The subsequent stages in which the placenta performs a similar function, and lastly, the perfect lungs at birth, present a curious subject for reflective minds. It proves that man in passing from the first state of development until he becomes a perfect and independent being, is at first associated with, and analogous to, the lowest forms of animal life. As the embryo advances in its progress, new organs of a higher order are added, old ones obliterated or become useless; these are analogous to animals of a higher order, and so on in progression, until he arrives at that point at which he has no rival. After partaking of the attributes of almost every class of animals, insect, fish, fowl, and quadruped, the organisms are perfected in the highest degree that nature presents to our consideration. The following authors may be consulted on this question:—Campbell's Study and Practice, 1849. Churchill, 1844. Library of Medicine and Midwifery, by Rigby, 1841. Blundell's Principles and Practice, by Lee and Rodgers, 1841. Vrolik's Tabulæ, &c., 1845; and the writings of Von Baer, Rathke, Oarus, and others.

**Allantoid.**—The allantoid membrane, intra-uterine. (See Allantoid.)

**Allasia.**—A peculiar kind of shrub which grows on the coast of Mosambique, which, by being applied in the form of a cataplasm to the loins, has had the credit attributed to it of facilitating parturition.

**Allium Vitoriale.**—(*Victorialis longa*.) The root of this plant in the dry state is said by some authors to be efficacious in relieving the spasmodic affections of the muscles of the abdominal parietes during pregnancy, but which is somewhat doubtful.

**Aloes.**—αλόη. Aloes F. Aloe L. Aloe G. A resinous extract obtained from the leaves of several species of the genus. *Aloe*, (hexandria, monogyn; hemerocalles,) varieties. 1. Aloes soccotra. 2. Aloes hepatica. 3. Aloes caballin. Aloes is not often given to young children, from the bitterness of its taste, and its liability to gripe: however, there is no purgative that, if judiciously employed, is more useful. It combines a tonic, as well as purgative power, in virtue of its bitterness: it has a particular relation to the liver, either as a substitute for bile, when deficient, or as passing through the liver, and so causing its flow; and it is well known, from its action on the rectum,

to be peculiarly hostile to ascarides. The taste of aloes is well hidden by combination with extract of liquorice, and perhaps there are few medicines to the taste of which children sooner become reconciled: of its various preparations, the compound decoction, and the vinum aloes, are those best fitted for administration to the child. *Mistura albetica.*  $\mathcal{R}$ . Decocti aloes compositi  $\frac{3}{4}$  iss. Extracti Glycyrrhizæ  $\frac{5}{4}$  ij. *M.* 3 i—3 ii bis terve indies. In cases where the head threatens to be engaged, without inflammatory action being present, particularly in children of a leucophlegmatic habit or lethargic tendency, this mixture, as a derivative purgative, is the best we can employ—as also when we wish to expel ascarides. Its anthelmintic powers will be much enhanced by the addition of half a drachm or a drachm of the muriated tincture of iron, which also corrects the tendency to regeneration of worms. Aloes, when used as an anthelmintic, may be employed in the form of suppository or ointment. The following suppository is recommended by Swédiaur; and the ointment is used in the German hospitals by rubbing a small portion round the navel, in cases of colic, connected with worms. *Suppositorium anthelminticum.*  $\mathcal{R}$ . Pulveris aloes  $\mathfrak{zss}$ . Muriatis sodæ  $\mathfrak{z}ijj$ . Farinæ  $\mathfrak{z}ij$ . Mellis q. s. ut ft. massa. *M.* Instar nucis, in forma suppositorii, utendum. *Unguentum anthelminticum.*  $\mathcal{R}$ . Pulveris aloes  $\mathfrak{z}i$ . Extracti fellis bovini  $\mathfrak{z}ij$ . Unguenti simplicis  $\mathfrak{z}i$ . *M.* Ft. unguentum. When the bowels are obstinately costive, purgative enemata must be had recourse to: care is required, however, in administering them to the child, as mechanical injury has been caused by their use. The tube is to be introduced cautiously, inclining its direction slightly towards the left side, while we soothe the child whose cries or struggles would so much impede the operation; the fluid is to be injected slowly, or at intervals, so as gradually to distend the bowels, and thus penetrate far up the intestines, without causing too great or sudden distention thereof. In children the intestinal tube readily dilates, and if over-distended soon loses its contractility; the more so the younger the child, so that great inconvenience or even danger may arise from over-distention caused by injections of too large or too frequently-repeated enemata; as Guersent has justly pointed out, and as we have seen. Four ounces of fluid are the most that should be administered to an infant, and not more than six ounces, until after five years of age, nor is it necessary that an enema should exceed eight ounces during the period of infancy. The following is a good general formula: *Enema purgans.*  $\mathcal{R}$ . Decocti hordei  $\mathfrak{z}v$ . Muriatis sodæ  $\mathfrak{z}iii$ . Olei Olivarum  $\mathfrak{z}v$ . *M.* A drachm or two of spirits of turpentine may be added, if much flatulency be present. The cautious introduction of the tube far up the bowel so as to allow the flatus to escape is an important measure of relief in such cases; the distress thus caused at times amounting to such a degree as to threaten suffocation. We have occasionally been able to confer great benefit in preventing the accumulation of flatus, by allowing the ivory pipe (detached from the tube) to remain in the anus.—(*Evan. and Mawn. Treat.*)

**Alogotrophia.**—A term once in use to express partial or disproportionate nourishment to any part of the body. Hypertrophy of a part.

**Alratia.**—An Arabic term formerly in use to express a partial or total closure of the vaginal canal. *Imperforata vagina.*

**Amand, St.**—A French obstetrical writer, who invented a net for securing

and delivering the fetal head when left in the womb decapitated; no doubt very effective if practicable, but the inventor entirely overlooked the difficulty of getting the head in such a position.

**Amatoria Febris.**—A term for chlorosis.

**Amatoria Venefica.**—Philters; love powders.

**Amazonum Pastillus.**—Amazonian troches or pastiles, formerly given to young females suffering from chlorosis.

**Amblosis.**—(From *αμβλω* to miscarry.) A term sometimes though rarely used to signify abortion. (See abortion.)

**Ambliotica.**—(From *αμβλωσις*.) *Ambiotique* F. *Abortus amblioticus* L., *eine un zeitige geburt fehlgeburt*, f. G., an untimely birth, or abortion. *Ambiotie*, having the power of procuring abortion.

**Amenia.**—*Amenie* F. *Amenia* L. The condition of a female who has not yet menstruated; it is also applied to females who have ceased to menstruate.

**Amenorrhœa.**—(*a priv.* *μην* month, *ρεω* I flow.) *Aménorrhée* F. *Amenorrhœa* L. *Amenorrhœe verstopfung des monatlichen weiblichen flusses* G. An obstruction of the menstrual discharge of women. This may arise from retention or suppression. In this article will also be considered vicarious menstruation. **RETENTION OF THE MENSTRU.**—The non-appearance of the discharge does not, in itself, constitute a disease. The bodily development must be considered, for the age at which the functions first begin varies. Instances of precocious puberty are numerous; it is not at all uncommon to meet with cases where the discharge does not occur till a late period of life; but if the health is not affected, interference will be rarely required. Climate has a marked influence over puberty; although much has been written to prove that it is a question more of constitution than climate; but in sultry regions maturity will take place at eight or ten years; in colder countries eighteen or twenty; and in Lapland, women will often menstruate only during the summer. In temperate climates, puberty is attained about fourteen years of age; if delayed much beyond that age, the amenorrhœa may be said to exist. The two conditions are, however, essentially different. In one, puberty itself is delayed, whether from idiosyncrasy, from want of constitutional energy, or from defective organisation. In the other, puberty exists; the ovaria and the uterus are matured; but their functions are suspended. In the former condition, we meet with young women of eighteen or twenty years resembling children in conformation, with a weak frame, a feeble circulation, attenuated, colourless, and stunted in growth. The case is obviously one of debility, and, only as such, requires treatment. Should the powers be renovated by time, tonics, a nourishing diet, salubrious air, and well-regulated exercise, the menstrual discharge will either take place with other signs of puberty, or the case will become one of the description above alluded to, and presently to be noticed. But puberty may also be delayed with another condition of body, where the general health and strength continue unimpaired, the growth proceeds as rapidly as in others, the circulation is active, and the frame vigorous; but there are no protuberant mammae, no sexual propensities, a slight beard grows on the upper lip, and the general characteristics resemble those of a male. In such a case the probabilities are, that the ovaries are either absent, or have become so diseased that their functions are

entirely lost. A striking instance is related by Mr. Pott, where a precisely similar state was artificially induced by removal of the ovaries in a young woman in St. Bartholomew's Hospital, although, previous to the operation, menstruation and all the signs of puberty had regularly existed. In such organic defects medicine is of no avail; though, under the possibility of the ovarian functions being interfered with by the pressure of some neighbouring tumour, the use of iodine, potass, mercury, or other medicines to promote absorption, might be advisable. When, at the usual age of puberty, a decided change in the system is observed, and a struggle is evidently taking place to bring about the sexual functions, although followed by no actual development, we may conclude that the defect is only in degree, and that, by proper assistance, nature will accomplish her object. In some cases, the failure may be said to be merely local: the mammae are enlarged, the pelvis has become capacious, the pudenda covered with hair, puberty is established, but the menstrual discharge does not take place. There are now peculiar symptoms set up; head-ache, with a sensation of fulness and throbbing, a flushed countenance, heaviness, pains in the back and limbs, and a full pulse, generally remarkably slow, though, in some cases, accelerated. There appears to be either a torpor of the uterine vessels, which ought to secrete the menstrual discharge, or (as some have supposed) a spasm of their extremities. The causes of this condition are generally to be found in the previous habits of the patient; for it is most frequently met with in those who have led sedentary and indolent lives, who have indulged in luxurious and gross diet, and been accustomed to hot rooms, soft beds, and too much sleep. The remedies are usually successful, and rapidly so. In the first place, the overloaded circulation is to be relieved by a brisk purgative, abstemious diet, and the abstraction of blood; if the symptoms of plethora are strongly marked, bleeding from the arm in considerable quantity may be required; but, in general, the application of leeches to the labia, pubes, groins, or os uteri, or cupping on the loins, will be sufficient. Bleeding from the foot, either by leeches or from a vein, was formerly preferred; and many practitioners of the present day still recommend it, as equally salutary and more palatable to the patient. The purgatives most efficacious in such cases are those which not only unload the vessels, but stimulate the rectum; aloes, colocynth, or senna and the neutral salts, are preferable; and, in addition to these plans, pediluvium, either of simple hot water, or made stimulating by the addition of mustard-flour, may be used for half an hour, night and morning. This treatment should be persevered in till the symptoms of plethora disappear, when it may be suspended, and merely a free action of the bowels kept up by the daily use of an aloetic purgative, either till the menstrual discharge comes on, or till, at the end of about a month, the congestive symptoms again are perceived, to be again similarly treated. Exercise, especially on horseback, will materially assist in promoting the desired effect, and, of course, all the old habits of self-indulgence are to be broken through. Should these plans fail, we must have recourse to those remedial agents which have been supposed more particularly to have the property of exciting uterine torpor, and which we shall notice in considering the next description of cases. In these, as puberty approaches, there is a marked derangement of the general health, from the powers being

unequal to the impending struggle. The patient has been, perhaps, growing rapidly, and has perceptibly become much emaciated; the face and lips are pallid; the hands and feet cold, particularly the latter; there is great lassitude, and the least exertion produces fatigue; the tongue is foul; the bowels are costive; the appetite is defective and irregular; the pulse slow and feeble. A more aggravated set of symptoms gradually supervenes: the complexion becomes peculiarly sallow, often of a greenish tint; and hence the name frequently given to this stage of the disease, *green sickness*, or chlorosis: (see *Chlorosis*.) Every part of the system partakes of the general torpor: the circulation becomes still more languid; and the blood seems, as it were, to stagnate in the veins. The digestion is nearly gone, the tongue covered with a dirty coat, and indented at the edges by the teeth; the breath is fetid, and there are frequent acid or offensive eructations, with air rumbling in the bowels, which are generally obstinately confined; and when they are acted upon by medicine, the motions are dark and foul. The appetite is irregular and capricious; so that the most indigestible substances are often craved for and devoured with greediness; chalk, slate-pencils, sealing-wax, tallow, and dirt; for it is by no means true that the longing is always for articles which nature points out as salutary, as, for instance, anti-acids and absorbents. The spirits are weak and depressed; hysterical tears are easily excited; the girl prefers a moping solitude; and decided melancholy, with delusions, will occasionally be manifested. The absorbents partake of the general debility; and there will be puffiness of the face after sleep, and anasarcaous extremities in the evening. Palpitation of the heart will be frequently troublesome, and there will be dyspnoea on the slightest exertion; and along with this latter symptom, a short distressing cough. Hence it is that there is no disease more frequently mistaken for phthisis, and the error is a most serious one; for much injury would be occasioned by the remedies generally administered for the latter complaint. The causes of this disease may be shortly stated, as all those which depress the vital powers, viz., a previously delicate and unhealthy childhood, insufficient or improper food, want of pure air and exercise, too close a confinement to study in schools, or to labour in crowded manufactories, the depressing passions, and, in particular, according to many, hope deferred, and disappointed sexual feelings. In treating the disease, the amenorrhoea must at first be considered as only one of the train of symptoms of disorder of the general health. It is advisable to begin with an active purgative, which will often bring away a large collection of highly offensive motions, with manifest relief to the patient. Small doses of blue pill may be afterwards occasionally repeated, and purgatives of a warm and stimulating character taken every morning, combined with a small quantity of some bitter extract or infusion, until the tongue appears cleaner, and the secretions from the bowels are more healthy. A more decided tonic of the vegetable class, along with myrrh, rhubarb, or aloes, and ammonia, will gradually prepare the stomach for the metallic tonics, and above all others, for that medicine most useful in these cases, namely, iron, which, in one form or another, may nearly always be taken with benefit in a torpid condition of the venous system. Upon the whole, perhaps, the Griffith's mixture (*Mistura ferri com-*

posita of the Pharmacopœia) is the most serviceable of the artificial preparations of iron. At the same time the bowels must be kept fairly opened with the above-mentioned purgatives, those containing aloes being preferable. The diet must be, at first, light and easily digestible; and, as the stomach is prepared for an improved and more nourishing food, wine, meat, and eggs may be taken. Gentle exercise in a carriage or on horseback, particularly the latter, with sea-bathing or the shower-bath, may be ventured upon cautiously as the strength improves. A pure air is very desirable, and on that account, when the patient has a little advanced, nothing is more efficacious than a residence at Tunbridge-Wells, or some other places where chalybeate springs abound, combining the advantages of change of scene, a salubrious atmosphere, amusement to the mind, and the internal use of the mineral water. With returning health and strength, the functions of health may be expected, and, amongst them, the menstruation; but it often happens that in this particular respect we are disappointed, and we now come to the trial of those remedies which have been found by experience to act either directly or indirectly in promoting menstruation. For the more complete consideration of this class of medicines, we refer to the article *Emmenagogues*. It will be sufficient here to mention those which are considered most serviceable at the present day. Some act by stimulating the neighbouring parts, the rectum and the bladder; such are the more drastic purgatives, aloes and melampodium; enemata of soap or turpentine; tincture of Spanish fly; savine, turpentine, and some of the balsams, internally. A combination of myrrh, aloes, sulphate of iron, and the essential oil of savine, has been found frequently of great utility by the writer of this article. Warm hip-bathing, hot and stimulating pediluvia, warm frictions to the hypogastric and lumbar regions, electricity or galvanism applied to the pelvis, have by many been proved beneficial; and it is often of great service to combine with one or other of these plans, the application of leeches to the groins, labia, or os uteri, or to the feet, once a month. Compression of the crural arteries by the tourniquet was formerly much in vogue, by which a larger quantity of blood was thrown upon the uterus. Irritation of the os uteri itself by means of bougies has been proposed, or the injection of a stimulating lotion into the upper part of the vagina, which has succeeded in a considerable number of cases; for this purpose a solution of ten drops of *Liquor ammoniac*, in an ounce of milk, has been advised once or twice in the twenty-four hours, and on several occasions the effect has been very rapid. Of supposed direct emmenagogues, the madder and spignel, formerly so much vaunted, have now fallen into disrepute. The only medicines of modern days which can at all lay claim to that character, are iodine, mercury, and ergot. Dr. Coindet, of Geneva, considers the former the most powerful and certain emmenagogue we possess, and attributes its success in bronchocele to the sympathy which the uterus and the thyroid gland manifest for each other. The ergot has been extensively used in various conditions of the uterus, and certainly seems to exert peculiar and powerful action on that organ, which may, perhaps, deserve the name of specific. In the cases before us it may be tried in the form of decoction, infusion, or powder. The writer has given it frequently, and, in many instances, success-

fully, in doses of ten grains and upwards, three times a day. In very irritable habits it must be cautiously administered, as it has been found, after a few days, to produce sometimes violent and even highly dangerous spasmodic attacks. There is, however, one circumstance to be kept in mind in the management of these cases. The menstrual discharge may be secreted regularly, but there may be no exit, the passage being closed by an imperforate hymen, or an obliteration of the vagina, either from original malformation or from disease. In these cases, in addition to the periodical recurrence of the symptoms of menstruation, there is a gradual enlargement of the abdomen from the retained fluid collected in the uterus, so that unjust suspicions of pregnancy are apt to be raised. A manual examination at once detects the impediment, and it is easily removed by a surgical operation. *Suppression of the menses* may take place at any time after menstruation has been once fairly established, and may be either *acute* or *chronic*; in the latter case it is most commonly the effect of disorder of the general health, although by females it is apt to be considered as the cause. Acute suppression generally arises from some cause acting immediately previous to or during the menstrual period; such as an attack of fever, exposure to cold or wet, anxiety of mind, frights, or any agitation of a depressing character, a meal of improper or indigestible food, &c. A few years ago a very interesting case was communicated by Dr. Burrows to the Medico-Chirurgical Society, of acute suppression ending in mania and catalepsy, which was occasioned by sexual intercourse, under very exciting circumstances, during menstruation. Some have argued that in these cases the amenorrhœa is merely the effect of fever excited in the system, and that the secretion from the uterus is checked, as all other secretions are in fever. But this idea is not always correct; for often, during menstruation, the sudden application of cold or wet will stop the discharge, long before the existence of fever, and without any subsequent fever at all. In such instances if the patient puts her feet into warm water, gets into a hot bed, and takes some diaphoretic drink or medicine, the discharge will return in a few hours. But in many cases the acute suppression is preceded or accompanied by general fever, quick pulse, hot and dry skin, coated tongue, a flushed countenance, violent head-ache, throbbing of the temples, and pain in the back and limbs. In habits at all plethoric, abstraction of blood is desirable; an emetic, followed by an active saline purgative, may be also given; a warm bath, hot fomentations to the abdomen, and diaphoretic medicines, combined with opium, will then be found of the greatest service; and if, after we have reduced the immediate symptoms, the menstruation is still suspended, we may consider it as a case of chronic suppression. *Chronic* suppression of the menses is either the consequence of a previously acute attack, or is the result of impaired health. In the latter case it often comes on slowly, the menstrual discharge either becoming gradually more and more scanty, or the intervals between the periods being more and more protracted, till at last there is a total suppression. In either of these cases there is much the same train of symptoms as described in the history of *retention* of the menses; but there is almost always much more head-ache and pain in the loins. The causes are also similar, and the treatment varies only according to the peculiar deranged



ment of health which produces or accompanies the suppression. It would be useless to repeat the details, and it will be only necessary to state, that, here even, the discharge may be obstructed by a closure of the vagina from ulceration after a difficult labour, or as the effect of irritating discharges. The possibility of pregnancy should also be kept carefully in view, as the cause of the suppression; and this caution is even applicable to cases of *retention* of the menses, for a previous menstruation is not absolutely necessary for conception, but only that condition of the sexual organs which is directly preparatory to menstruation. Sir Everard Home has stated a case where menstruation occurred for the first time in life after the birth of more than one child, the second pregnancy taking place during lactation. Professor Frank has related a still more remarkable instance of a patient who bore three successive children, and never menstruated at all, either previously or subsequently. *Vicarious Menstruation*.—The consideration of this curious freak of nature is most appropriate to the history of amenorrhœa, because it does not occur except when menstruation is checked. It appears to depend principally upon a torpid or amenorrhœal condition of the uterus; and regular evacuation being prevented, by accident before the period of menstruation, or by previous illness, a large mass of blood is thrown back upon the system and appears elsewhere. Hence we have vicarious discharges from the lungs, nostrils, stomach, and bowels, in weak constitutions. Such discharges are also met with from the bladder, nipples, umbilicus, eyes, ears, teeth, skin, open ulcers, &c. &c. General bleeding has been recommended, but not wisely. Leeches to the labia, groins, os uteri, before the expected period may be beneficial. The object is not only to control the hemorrhage where it exists, but to rouse the action of the uterus. In the intervals, metallic tonics, particularly iron in combination with aloes and myrrh, should be given, and more direct emmenagogues just before the expected period. Opium in connexion with mineral acids, or acetate of lead, just before the expected evacuation from the lungs; or in connexion with the nitrate of bismuth when the stomach forms the outlet, have been highly spoken of. (This article is partly altered from the *Cyclopædia of Practical Medicine*.) On this important question may be consulted a vast list of authorities, which it would be impossible to introduce here on account of its length. *Vide* *Initia Bibliothecæ Medico Practicæ*, &c., by D. G. G. Ploucquet, 1795, which enumerates most known writers to the completion of the eighteenth century. Of more modern authors may be consulted every general system of midwifery, and the excellent monographs of Drs. Ashwell, Rigby, Waller, Churchill, Clarke, and others.

*Amiculum*.—(a short cloak.)—Formerly a term applied to the Amnion; also used by the ancients to express a covering for the pubes of boys when they exercised in the gymnasium.

*Amnion*.—(αμνιον.) Amnios, F. — Amnion, L. — Schaaftaut, G. — A serous membrane of very delicate texture. The amnion is the inner membrane of the ovum.—It is transparent, and of great tenuity, "yet its texture is firm, so as to resist laceration much more than the other membranes." (W. Hunter, p. 50.) It is loosely connected with the chorion on its external surface, except when this membrane unites with the decidua to form the

placenta, at which spot it adheres to the chorion much more firmly. Its inner surface, which is in immediate contact with the liquor amnii, is very smooth; whereas externally, from being connected with the chorion by an exceedingly fine layer of cellular tissue, its surface is not so smooth. Dr. W. Hunter considers that this intervening tissue is a gelatinous substance: it seems however, to possess too much elasticity for such a structure; and, from the reticular appearance which it generally presents upon the membranes to which it adheres, we are inclined to adopt the opinion of Meckel in considering it cellular. "In the very early state of an ovum the amnion forms a bag, which is a good deal smaller than the chorion, and therefore is not in contact with it;" (*Ibid.*, p., 75): hence, therefore, a space is formed between the two membranes which is filled with a fluid called the *liquor amnii spurius*, or more correctly the *liquor allantoidis*. "In the course of some weeks, however, it comes nearly into contact with the chorion, and through the greater part of pregnancy the two membranes are pretty closely applied to each other." (*Ibid.*) Lobstein, in his admirable *Essai sur la Nutrition du Fœtus*, observes, that the membranes continue separate from each other so late as the third and fourth month. Cases every now and then occur where a considerable quantity of fluid is found between the chorion and amnion in labour at the full period of pregnancy. We shall defer the minute description of the amnion and its relations, during the very early periods of utero-gestation, until we describe the embryo. The amnion is reflected upon the umbilical cord at its insertion into the placenta, envelopes the umbilical vessels, the external covering of which it forms, and is continued to the anterior surface of the child's abdomen, passing into that projecting portion of the skin which forms the future navel. Blood vessels and nerves have not as yet been discovered in the structure of the amnion, but Meckel considers it extremely probable that the fine layer of cellular tissue by which it is connected with the chorion contains vessels for its nutrition. The human amnion, so far as is known, has never been visibly injected, though many attempts have been made; but in the cat and dog this membrane may be easily injected through the umbilical cord.—(*Extracted from the works of Drs. Rigby and Blundell.*)

**Amorus Pomum.**—Love Apple; the fruit of one of the *Solanums*, which, if eaten, is said to cause a disposition to lust.

**Ampelion.**—A Vine Leaf or Tendril, which was recommended by Hippocrates to be made into pessaries, and which, he states, were effective in promoting the menstrual discharge.

**Amphideon.**—(From *Ἀμφιδέον* participle neuter of *ἀμφιδέω*, to bind round.) A name sometimes (but now rarely) used to the os uteri.

**Amphilæx.**—(*Ἀμφίληξ*.) The term given by Rufus of Ephesus, one of the early obstetric writers, to the perinæum. See the article *Perinæum*.

**Amphimetrium.**—Parts connected with the uterus.

**Amyelia.**—(From a priv., and *μυελος* marrow.) An arrest of development, consisting of a partial or total obliteration of the spinal marrow.

**Anaphrodisia.**—(From a priv., and *Ἀφροδιτη* Venus.—Anaphrodisie, F.—Anaphrodisia, L.—Der mangel an reiz und empfänglichkeit für die geschlechtelust, G.—Absence of the venereal appetite, want of inclination for sexual pleasures. Generation requires, in both sexes, not only a complete

organization, but also certain indispensable conditions of vitality. As pleasure is essential to the act, the diminution or abolition of genital sensibility, or anaphrodisia, constitutes a species of affection, for which medical assistance may be sought, and the medical jurist be consulted. 1. Generally speaking, anaphrodisia may depend on a number of hygienic or physiological causes, which it is important to point out. The exclusion or too long-continued use of cooling aliments may throw the genital organs into a sort of collapse. The abuse of spirituous liquors and of coffee may have the same result, by exhausting the sensibility of the organs. Among the physiological causes, one of the most frequent and pernicious is premature and abused exercise of the genital organs, and especially by masturbation. By a quite different mode of action, absolute abstinence from venereal pleasures must enfeeble and finally annihilate the generative power. Anaphrodisia may be the effect of the moral influence on the organs; so close, indeed, is the connexion between the organ of intelligence and those of reproduction, that the exercise of thought seems sometimes to monopolize all the nervous influence, and render the senses deaf to pleasure. The man whose attention has been long fixed on the same series of ideas, at length forgets the objects of sensual pleasure by which he is surrounded. Certain passions, such as hatred, jealousy, the view of some deformity, the disgust inspired by a fœtid breath, and deceived expectations regarding the result of the conjugal act, may give rise to anaphrodisia. Age and temperament have also a marked influence on the energy of the reproductive faculties: as years increase, the genital sensibility keeps pace with the other senses in the decline of their activity; and while amorous ardour is generally allied to bilious and nervous temperaments, constitutions eminently lymphatic are accompanied by a frigidity, which may advance to impotence. This species of anaphrodisia attacks those individuals principally who are excessively fat; like those flowers which are unprolific, only because their stamens have become converted into petals. Lastly, there is a sort of anaphrodisia which may be called essential, inasmuch as it depends on a defect in the genital temperament, which may be owing to an original disposition, anatomical or physiological, of the organs of sensibility: we have examples of this description of impotence in those persons in whom want of development is characterized by flaccidity of the penis, looseness of the scrotum, incontinence of urine, shrill voice, absence of the beard, &c. Anaphrodisia must be looked upon as very rare in the female, for nothing is required in woman for the union of the sexes but calm feelings, without coldness and without aversion. *Treatment.*—It is difficult to establish general rules of treatment for this affection, as there are so many causes capable of producing it. That species of anaphrodisia which is caused by the use of refrigerant aliments, may generally be cured by means of food which is at once nutritive and stimulant, such as animal jellies charged with osmazome; most fishes, and especially their roe; oysters, lobsters: different vegetables, such as truffles, mushrooms, &c. The anaphrodisia proceeds from frequent emissions of the semen; the individual should avoid all moral and physical excitants capable of producing them. The exercise of swimming is a means which promises more for a cure than almost anything. When nothing more is to be feared from the use of stimulants,

great advantage will be derived from the shower-bath over the loins and along the spinal marrow, and from frictions with stimulating liniments in the neighbourhood of the sexual parts, taking care to calculate the degree of excitement proper to be given to the genital organs. When anaphrodisia is the result of a long and active exertion of the mind, every subject of meditation should first be removed from the thought, and the senses should be occupied by objects capable of rousing them from their slumber. In like manner, if it results from any imaginary cause whatever, we can scarcely hope to succeed, except by modifying the existing moral impression. Anaphrodisia depending on an organic defect in the individual, or a fault in the genital temperament, is, without contradiction, one of the most difficult to remove; especially when there is foundation for believing it to be the result of a paralysis of feeling or motion in the muscles of the perinæum, in consequence of a congenital or acquired alteration in the cerebrum or cerebellum. In any case, if there was no contra-indication, the application of an issue to the nape of the neck might be tried, together with such medicines as experience has proved to be capable of exciting the genital organs in particular, and which have therefore been called *APHRODISIACS* (*see this word*.) 2. The medical jurist may be consulted in actions, either to prove the impotence in a case where separation is sued for, or to decide whether it existed or not at the alleged period of intercourse, when, for example, a disavowal of paternity is the subject under dispute. It is very difficult to decide on these points: the medical jurist, who ought to found his judgment on appreciable facts alone, most frequently finds here nothing but obscurity and uncertainty. And though, with every appearance of a perfect organization, the anaphrodisia may be real, the impossibility of proving it has induced the present legislature to declare, that he is not impotent in whom there do not exist positive and material signs of impotence. For the same reason the moral causes of anaphrodisia, such as hatred, the disgust inspired by a particular deformity, &c., should, where separation is sought, be taken into consideration only when they can serve as an excuse for an individual accused of IMPOTENCE (*see the word*).

**Anaphrodisiacs.**—The means used to remedy the state of anaphrodisia.

**Ancunulenta.**—A term applied by the ancients to women during the term of menstruation.

**Andrachne.**—A name formerly given to the herb purslane, which was formerly a favourite remedy in medicine; supposed to assist in increasing the seminal secretion.

**Andree John, M.D.**, Surgeon to the Magdalen Hospital, and Teacher of Anatomy in London—afterwards retired to Hertford. Amongst many other works, he published, in 1761, one entitled "Inoculation Impartially Considered," and "On Fistula and Hæmorrhage."

**Andrew John**, of Exeter, wrote extensively on the advantages of Inoculation. 8vo. Exeter, 1765.

**Andry.**—An author of some repute; who wrote the article *Worms* in a work called "A full view of all the Diseases of Children." 12mo. London, 1742.

**Andria.**—A term given to a fetus of hermaphrodite character, but where the organs preponderate towards the female sex.

**Androgynus.**—(*Ἀνδρογυνος*).—Androgynus, i., L.—Androgyne, F.—Maunweiblich, G. A term principally used in a botanical sense; nevertheless, it has also been applied to signify an hermaphrodite. (From *ανηρ* a man, and *γυνή* a woman.) See article *Hermaphrodite*.

**Androgenia.**—A term which has been applied both to conception and to the process of labour.

**Anemia.**—(From a priv., *αἷμα* blood.)—Anemie, F.—Anemia, L.—Blutmangel, G.—Deficiency of blood; a disease in which the blood appears to have lost its natural colour, consistence, and properties, and is deficient for the purposes of life—the condition of the body after the loss of blood. As its name signifies, this disease consists in a considerable diminution in the quantity of the blood. While it is often symptomatic of a chronic affection, and sometimes a transient effect of excessive hæmorrhage, it is idiopathic in some cases, and seems to result from a sort of *étiolement* in the individual attacked. Some physicians think that it does not differ from chlorosis; we are not of this opinion, for we consider chlorosis to depend on asthenia of the genital organs. The comparison of anemia with the *étiolement* of plants deprived of light gives a sufficiently exact idea of the aspect of persons affected with this disease, but it is incomplete in many respects. Indeed, if the want of solar light is one of the probable causes of anemia, it is unquestionable that this cause is not sufficient to produce it; in this respect, then, there exists a great difference between it and *étiolement*, for the abstraction of the light is sufficient, as every one knows, to blanch plants. Let us then seek, by studying the circumstances under which anemia is most frequently developed, a better explanation than is to be found in a seductive but deceitful analogy. And, first, let us beware of confounding the anemia sympathetic of a chronic affection, which has gradually impoverished the sanguineous system, with the true anemia, such as we are going to describe it. The former is a mere discolouration of the tissues, possessing no analogy with real anemia, and which does not deserve the name. However, this symptomatic discolouration of the tissues is not the less remarkable. There would, doubtless, be nothing but what is very natural in its production if we saw it come on in most chronic affections of very long standing; but far from that, it is excessively rare, and when we do observe it we do not know to what particular circumstance in the disease to attribute it. To dissipate this obscurity it would have been necessary for the authors who have spoken of symptomatic anemia to have given exact descriptions of the diseases in which they had observed it, while they have confined themselves to the simple announcement of the fact. We are therefore reduced to conjecture. It is not probable that this symptom can accompany chronic affections of all the organs indiscriminately; if that were the case, we should observe it much more frequently. Does it then belong more especially to lesion of an organ,—and which is this organ? We do not know; but since the beautiful researches of MM. Prévost and Dumas have proved that the liver is an organ of hematosis as well as of secretion, I have asked myself more than once if symptomatic anemia might not depend more frequently on chronic inflammation of the liver than on chronic inflammation of any other organ. Without concealing the numerous

objections which may be opposed to this opinion, I will add, that the only example of symptomatic anemia which I have seen existed along with chronic hepatitis. Be that as it may, this anemia and the one which succeeds to an abundant hæmorrhage ought to be carefully distinguished from true anemia. True anemia has been observed especially in the coalminers of Auzain, near Valenciennes. All these have been successively attacked by the disease. It cannot be attributed to want of solar influence alone, for the labourers in the neighbouring mines are exempt from the disease. Again, it is known that those who live long in dark and damp dungeons, become scrofulous and scorbutic, but not anemic. The gallery in which the disease became developed was, it is true, longer than the others, and the air was renewed in it with greater difficulty; but on making openings to remedy this last inconvenience, the disease did not cease in the least; therefore want of fresh air is not its cause. But they analysed this air, and found in it sulphuretted hydrogen and carbonic acid gases, and they imagined that the disease was owing to the presence of these gases. Lastly, analysis detected the presence of sulphuretted hydrogen in the water which filtered through the mine, and which some of the patients had drunk. It is therefore probable that the anemia of Auzain was produced by that deleterious gas, and by that alone, for the symptoms of the disease have no connexion with the known effects of carbonic acid. If we are asked how the gas could act under the circumstances we have described, and what modifications it must have impressed on the economy to give rise to anemia, we are led to admit, from its known stupefying effects, that being put continually in contact with the blood by means of respiration, but in too small quantities to produce immediate appreciable effects, it by degrees diminished the stimulating qualities of that fluid, with which it combined itself daily in small quantities at a time; that conveyed to all the organs, it exercised upon each of them a feeble but continued stupefying action; that the result of this was a diminution of their nutrition and consequently of their functions; that the heart in particular received a supply of blood less and less stimulating, both for its nutrition and for the action of its contractions; that the organs of hæmotosis, the lungs and liver, especially felt the deleterious effects of the gas, by reason of the enormous quantity of blood traversing them; lastly, that the want of solar light, the bad effects of which on hæmotosis are incontestable, adding its influence to that of the sulphuretted hydrogen gas, these two united causes produced a general asthenia, much more considerable, however, on the organs of sanguification and circulation than on the rest, and that the diminution of the quantity of the blood must have been the necessary effect of it. In admitting this etiology, the anemia of the mines of Auzain would have consisted in an asthenia of all the sanguineous system. But if such appears to be the nature of anemia under the only circumstances where we have been well able to make out the agent which produced it, to study the action of that agent, and to appreciate its effects, are we not authorized to conclude that its nature is the same in all the cases where it is primitive, though the connexions of cause and effect escape our notice? Doubtless; and when it succeeds to a want of sufficient food, or to the use of food which is not nutritious; when it is the result of excessive fatigue or of too abundant evacuations, causes which, as authors say,

may give rise to it, it is still probable that it depends on weakness of the sanguiferous system. However, it is necessary that the individuals who contract the disease under the influence of these causes should be predisposed to it; otherwise it would be difficult to conceive how causes acting on the whole economy could produce morbid effects confined to only one system. The symptoms of the disease are the following:—Discolouration of the tissues, and disappearance of the subcutaneous blood vessels. The paleness of the skin is extreme, and the visible mucous membranes partake this pallidity; no traces of the blood-vessels seen there in the healthy state can be found: the conjunctiva even and the mucous membrane of the mouth are deprived of them; and if any vessels are found they are filiform, and contain very pale blood. On the face the skin acquires a tinge resembling that of wax coloured by time, but that is not constant; I have seen the countenance quite cadaveric. To these symptoms are joined a little swelling of the face, extreme weakness, anxiety, palpitations and shortness of breath on taking the least exercise, abundant urine and sweat, sometimes diarrhœa, impossibility to fix the attention on any one subject, noises in the ear, swoonings, and a continual wasting away. In many of the miners of Auzain, the disease was preceded for ten or twelve days by violent colics, borborygmi, black or green dejections, dyspnœa, palpitations, and great weakness. But I do not think these symptoms belong to anemia, because in some they were not manifested, though the existence of anemia in them could not be mistaken. They were no doubt owing to a concomitant affection of the digestive organs; I have seen them in an anemic patient who had at the same time a diseased liver, and gastro-enteritis. Anemia is such a rare disease that I think I may as well describe here the two cases which I have seen of it. The first was in a pork butcher, in whom the most minute investigation could not detect any organic lesion. This man lived well enough, and had no uneasiness on his mind; he perceived himself growing pale and weak without any known cause, except that he habitually worked in a cellar; by degrees his skin became discoloured and looked like wax: he had frequent faintings, and though the functions of his economy were still perfectly performed, being alarmed at his condition, he decided on entering the Hotel Dieu. A month's rest, plenty of food, and the use of bitter wine, entirely re-established him, except in regard to his natural colour, which had not returned when he left the hospital. Many interesting cases of this unusual disease are recorded in the periodicals. There are some admirable remarks on anemia by Dr. Marshall Hall, of London. A state somewhat similar occurs after profuse hæmorrhages, and often observed during parturition. We meet with bloodlessness in subjects, for which we cannot account. In bad forms of chlorosis there is universal pallidity, and there seems to be a want of red blood. The following example of the disease is worthy of record:—the anemia was not essential; it accompanied a chronic affection of the liver and digestive passages, but the discolouration was carried to an extreme point, (this discolouration cannot be confounded with that which is common in chronic diseases); it was in a young woman. It was in vain we sought, on her extremely fine skin, for any traces of blood-vessels; her lips were the same colour as the rest of her face; her aspect was cadaverous, and in some measure frightful; when asleep she seemed dead; some

times her ideas were lost, her tongue stammered, she wished to speak and could not; she would feel life slipping away from her, and losing all feeling, would remain for a few moments suspended, as it were, between life and death; she would then recover her senses by degrees, and would relate, with the greatest horror, the frightful anxiety she had just experienced in feeling herself abandoned by life, without being able to make the slightest effort to retain it. She sunk during one of these paroxysms; but unfortunately the body was not examined. Anemia is a very serious disease; it is easily contracted again when a person has once had it, and while he remains exposed to its causes: it may lead to the fatal termination which sometimes supervenes on an attack of syncope. On examination all the veins and arteries are found empty of red blood, and containing only a small quantity of a serous fluid; on dividing the flesh not a drop of blood escapes, except in very muscular parts, and the body seems as if made of wax. Besides these peculiarities, Hallé made some other very important observations on a subject who died at the *Hospice de Perfectionnement*. The flesh of the heart was as pale as if it had been washed and macerated; its parietes were flabby, and the carnes columnæ thin; not a drop of red blood flowed from its cavities; and the left ventricle contained a clot of blood as pale as the flesh of the heart itself. The other lesions in this subject we pass over, they having no immediate connexion with the disease under question. The treatment of uncomplicated anemia is entirely chronic. It must consist in the employment of steel medicines, of bitters and tonics of the nature of quinine, in a stimulant and analeptic diet, of which roast meats should form the basis, and in hygienic plans proper to strengthen the patient, such as dry or aromatic frictions, moderate exercise, sharp dry air, and insolation. The carbonate of iron, in doses of one drachm in a day, is the medicinal means promising most success. But when the anemia is accompanied by symptoms of gastro-intestinal irritation, the stimulant method must be avoided; it would aggravate the symptoms instead of diminishing them, as happened to the patient who died at the *Hospice de Perfectionnement*. I do not know how far local bleedings may be urged; being contra-indicated by the anemia, it would be more prudent, I think, not to use them; yet one ought not to neglect the employment of the other antiphlogistic means recommended in gastro-enteritis. The same conduct must be observed in those cases where the anemia is symptomatic of a chronic affection; it is against the latter that all the efforts of the physician should be directed. It may be advantageous, in certain cases to combine the two plans of treatment, but it is evident that it is impossible to lay down rules in this respect, and that the skill of the practitioner alone must guide him in these different cases.—C. B.

**Anencephalus**.—(an, i. m.; from *an* priv., and *εγκεφαλος* the brain.) Signifying a fetus which, in the arrest of development, is born without brain. See the article *Acephalous*.

**Angina Externa**.—Commonly known as mumps; a disease to which children are liable. See article *Parotidia*.

**Angina Gangrenosa**.—See *Scarlatina Maligna*.

**Angina Membranosa**.—See article *Croup*.

**Angina Siccæ**.—Chronic inflammation of the pharynx, with a sense of heat and dryness; occurring in some chronic affections of the stomach and lungs.



**Angina Scirrhus.**—The resulting affection from scirrhus alteration of the pharynx or œsophagus.

**Angina Pectoris.**—Characterized by pain at the sternum.

**Angone.**—A nervous species of suffocation, probably hysteric, without inflammatory action.

**Angos.**—(From ἄγγος a vessel.) The term given by the great father of medical science (Hippocrates), and his followers, to the uterus.

**Anglicanus** Gilbert vel Gilbertus Legleus (*vide* Bayle), a native of Britain in the thirteenth century; paid considerable attention to leprosy in his work, "*Laurea Anglicana seu compendium totius medicinæ*." He was physician to Hubert, Archbishop of Canterbury, in the reign of K. John, A.D. 1210. Leland mentions this author at the close of the thirteenth century. He was one of the earliest writers on practical medicine in Britain. Dr. Friend considers him quite equal to any of his day, but Leland considered him greatly superior. He wrote a short work on female diseases.

**Animalcula.**—ζῶδιον Animalcule, F.—Animalculum, L.—Thierchen, G. A living animal, so minute as to be only observed by the microscope, for instance, the class called *Infusoria*. Some physiologists have endeavoured to explain the process of animal procreation, and the diffusion of contagious infection on the intervention of spermatic or other existing *animalcula*.

**Animation.**—Animatio, L.—Animation, F.—Beseelung, G. The mysterious combination of the principles of life with organized matter. The endowing of the animal body with the vital principle. For *animation suspended vide* *Apophyzia Neonatorum*, &c. Animation of the fetus in utero is dependent up to the seventh month, or near it, in some measure, on the maternal parent, and only exercises an independent principle when expelled from the uterine cavity sufficiently matured to live.

**Anomaly.**—(From ἀνωμαλος from α neg., and ὁμαλος equal, regular.)—Anomalie, F.—Anomalia, L. Any deviation from the laws of nature—any natural object differing from that usually observed. Monstrosities (a very erroneous term, which, in fact, has no existence) are termed anomalies of the process of organization.

**Anomalocephalus.**—(From the same as last, and κεφαλή a head.) The celebrated Geof. St. Hilaire uses this term to express a malformed head.

**Anomphalos.**—(From α priv., and ομφαλος the navel.)—Anomphalus, L.—Anomphale, F.—Ohne nabel, G. The simple meaning of which is, *without navel*, a circumstance which, if it is meant as no maternal connexion is incorrect. A fetus born with extroversion of the bladder has been supposed by some to be destitute of the umbilicus, because the navel was not easily perceived; the mere displacement of the umbilical connexion is no proof of its absence. Some authors have wasted much valuable time by contending that Adam and Eve, being created, or, in other words, *not born* as all others subsequent to their time have been, had not navels, a question which *cannot be solved*, and, if it could, would be of no value.

**Anorchus.**—(From α priv., ορχις testicle.)—Anorchide, F.—Anorchus, L.—Ohne hoden, G. An individual supposed to be deficient or wanting testicles. This position is almost altogether erroneous, and has arisen from the testicles not having descended from the abdominal cavity. Sometimes

they have been retained for years after birth; sometimes only *one* has descended; and some rare cases have never descended during life, yet none of these are incapable, *on that account*, or less disposed for generation.

**Abnormal.**—See article *Abnormal*.

**Antacids.**—Medicines to correct acidities. Vide *Alkalies et Acidities*.

**Anteros.**—*αἰσθητός* (from *αἰς* against, and *σπῶς* love.) A name given to the amethyst, so called because it was thought to quench the desires of love.

**Anthelmintics.**—(From *αντι* against, *ελμινς* a worm.)—Anthelmintics, L.—Anthelmintique, F.—*wurm mittel*, n., *die wurmoidrige mittel*, G. Worm medicines. Of the numerous anthelmintics in use, turpentine and cowhage are those which we would in particular recommend for administration to children. Turpentine acts against all the varieties of worms, and may be safely given, even to very young children, in doses of half a drachm, or a drachm, and is most easily taken when administered in milk. Castor oil may follow as a purgative; and this is a better way of giving it than combining both together. The *dolichos pruriens*, or cowhage, is particularly serviceable in expelling the lumbricoides and long thread worm. The worms generally begin to appear after the second or third dose of the medicine, and may often be removed, in great numbers, by the aid of a purgative. The medicine is prepared by dipping the ripe pods in syrup, into which the pubes or hairs are scraped, until it becomes as thick as honey; and from one to two tea-spoonsful are given while the child is fasting. If care be taken to have the hairs well blended in the syrup, and not to allow the lips to be spattered by the medicine, no apprehension need be entertained in giving cowhage to the youngest child; for though so irritating to the skin, and offensive to the worms, it produces no effect on the mucous membrane. This advantage it shares in common with turpentine; and the latter is even highly advantageous in the mucous diarrhoea which often accompanies worms in children. Various bitters have been given as anthelmintics, and such medicines prove beneficial by restoring the tone of the stomach and bowels; for by invigorating these, worms are often expelled, and their generation prevented. The latter object we should never forget. It will not be enough to remove worms, unless we take means to restore the general health, and improve the digestive powers, in children predisposed to their formation. For this purpose, change of place, or residence in a dry, airy situation, is essential. The food should be nutritious, or even occasionally stimulant, salt being very freely taken at meals. Even as a medicine, muriate of soda, whether given by the mouth or by injection, is an excellent anthelmintic. Diluted muriatic acid has in particular been recommended for restoring the tone of the stomach and preventing the return of worms. For this purpose, however, we rely more on the use of chalybeates; and we have a combination of both in the muriated tincture of iron—a preparation which we have found very serviceable. Injections of sulphate of iron (from two to five grains in four or six ounces of cold water, for a child,) we have found particularly successful in removing ascarides from the rectum; and this remedy, though long since recommended, is now seldom used. The following electuary, which contains iron, is given with great success at the Institution for the Diseases of Children, in most varieties of intes-

tinal worms. It in general purges briskly, and seldom fails to carry away worms, if any be present:—R. Pulveris Jalapæ. Cryst. Tartari. Carbonatis Ferri  $\text{℥} \frac{1}{2}$ . Pulv. Zingiberis  $\text{ʒss}$  Theriac  $\text{q. s.}$  Ut ft. Electuarium.  $\text{ʒss}$ — $\text{ʒi}$  bis terve indies.—(*Evanson and Maunsell's Treatise.*)

**Antiphlogistic Remedies.**—The class of remedies which we shall have most occasion to use in the treatment of infantile disease is that which is employed to combat acute inflammation: and hence called antiphlogistic. These remedies act principally by depletion, or as evacuates; but we must not forget that a certain part of their action is stimulant,—especially exciting some organ or tissue, as the kidneys or skin, and so producing a diuretic or diaphoretic effect. This is most manifest in the case of cathartics, which often irritate the bowels, as well as purge, thus acting more or less as counter irritants, some of their remedial power arising from this source. This action may, however, be carried too far, so as to do injury by the special irritation thus produced, which may also prevent the expected evacuation, and aggravate, or even create, local inflammation. Much mischief arises from overlooking these circumstances in the treatment of children's diseases; for in consequence of the susceptibility of their organs, this irritative action is peculiarly liable to be carried to an injurious degree. Thus it is that we see intestinal irritation induced by purgatives continued to be given to children, until nothing but a little bloody mucus is evacuated; or stimulating expectorants employed, until expectoration has been suppressed, and a slight catarrh changed into a severe bronchitis. These errors we shall avoid by recollecting that the use of evacuant medicines is not necessarily followed by evacuation, as their names (purgatives, diaphoretics, &c. &c.) would imply, unless the necessary precautions be taken to ensure such results. These are, to employ only the least stimulating in the early stages of inflammatory diseases, and to premise direct depletion when required.—(*Evanson and Maunsell's Treatise.*)

**Antiversion or Anteversion.**—An abnormal position of the uterus observed both in the unimpregnated and impregnated organ. In the former it is recognizable by bearing in mind the normal position of the uterus in the unimpregnated state, as in fig. I of the accompanying outline, and comparing it with

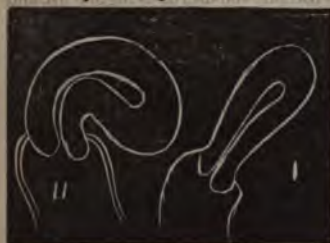


fig. II *antiverted*, that is, with the fundus uteri directed downwards and forwards. The same direction is given to the fundus in the gravid uterus, constituting the peculiar feature called the pendulous belly, which has so tilted the os uteri upwards and backwards, as to

lead inexperienced practitioners to suppose it a case of occlusion of the os uteri; and Dr. Dewees mentions a case where an artificial os uteri was proposed to be made, *nay actually was made*, and the child delivered through the incision; the patient recovered, and was afterwards delivered *per vias naturales*, to the disgrace of those who had unnecessarily mutilated an organ which *in fact was only antiverted*. It is, however, just barely possible that adhesions might be contracted whilst in this abnormal position, and render operative measures necessary, but it is an extremely rare case. In gravid antiversion, the patient being placed on her back during labour, and the pendulous part raised

by a broad bandage upwards, will generally suffice. In the unimpregnated organ it is necessary to replace the organ in its normal position, and equally so to correct the constitutional debility which has been the cause of the displacement, neither of which means *alone* can be of any use unless accompanied by the *other*. The simple restoration of the position of the uterus will be immediately followed by a relapse to the abnormal condition, if the tone of the uterus and its appendages be not improved in the meantime. And to improve the tone and condition of the parts without restoring their normal positions, would be equally absurd. Much information will be found on this subject, as to diagnosis and treatment, in an excellent pamphlet by Professor Simpson, on *Retroversion, Antiversion, &c.*, published in the *Dublin Quarterly Journal of Medical Science*, May 1848.

**Antigalactic.**—(From *αγρι* against, and *γαλα* milk.)—*Anti-galactique*, F.—*Antigalacticus*, L. a term used to signify the means used for suppressing the secretion of milk. See article *Agalacty*.

**Antlia Lactea.**—(From *Αντλια* a pump,) or *Antlia Mammaria*, a milk pump, that is, an exhausting syringe, applicable for relieving the breasts of the milk.

**Anus.**—*Examination by the.*—This is a proceeding frequently necessary in midwifery practice; for instance, in extra-uterine pregnancy, and in cases where the vagina is so formed as not to admit the finger. But it is more especially required in diseased states of the internal genital and pelvic organs. In making this examination, it is generally most convenient to place the woman on her side, but sometimes it may be more suitable to have her lie on her back, or to put her in the kneeling posture, with the upper part of her body bent forwards. In many instances it is useful to combine the examination by the rectum with that by the vagina. One or two fingers are to be introduced into the bowel, after it has been properly cleared out by a clyster: and in making this examination, we must bear in mind the different positions of the uterus when pregnant and when not. In the latter case we reach the middle of the posterior surface of the uterus; but in the former, the uterus is higher up, and we can reach only its neck, unless it be inclined backwards, in which case we feel the body of the uterus directly upwards.—(*E. Copeman, M.D.*)

**Anus.**—*Delivery by the.*—In abdominal pregnancy it not unfrequently happens that a preternatural opening takes place in some portion of the intestines, and the child is discharged piecemeal by the anus. In some cases of uterine pregnancy, where there has been a narrowing or occlusion of the vagina, laceration of the vagina and rectum has occurred, and the child has escaped through the opening thus made; and under similar circumstances delivery has been effected in this manner even by an opening made artificially, as in the case of Chapman, communicated by J. Burns. As this mode of delivery is almost always accompanied with laceration or paralysis of the sphincter ani, a recto-vaginal fistula is the consequence, which often defies all treatment, and places the unfortunate woman in a truly lamentable condition. *Vide Laceration of the Perinæum.*—(*E. Copeman, M.D.*)

**Ani Prolapsus.**—*Prolapsus ani*, or coming down of the intestine will occasionally result from irritation of the bowels; and this is not an uncommon affection with children who have suffered much from bowel complaints. Indeed children are commonly the subjects of this complaint, being more dis-

posed thereto than adults, both from the nature and structure of the parts concerned: for, not only are the viscera of the abdomen more voluminous, and the mobility of the intestine greater, in the child, but the resistant powers are less, the intestine not being so much curved, the sacrum more perpendicular, and the coccyx still moveable thereon; while the connections of the rectum are less extensive than in the adult, in consequence of the imperfect development of the neighbouring parts. Occasionally a large portion of the intestinal mucous membrane is protruded, and this appears to be highly vascular; being presented in the form of a small pyramidal tumour, red and coiled, rather than in the shape of a circular fold, or two lateral flaps, as is most usual in the adult. If not judiciously treated, and soon returned, it may inflame, ulcerate, and even slough. Most of these symptoms of high irritation, however, and especially hæmorrhage, are connected with an inflammatory state of the bowels, and, when present, should induce a strict examination into all the symptoms.—(*Evanson and Mannsell's Treatise.*)

**Anus.**—*Imperforate.*—Several varieties of this morbid condition are to be met with. The anus may be simply closed by skin, or a membranous septum, at the termination of the rectum; or the rectum may terminate in a cul de sac, at a greater or lesser distance from the natural situation of the anus; or the anus may appear perfect, but an obstruction exist in the gut, at some distance within it. In other cases we have known the rectum to terminate by opening into the vagina; or bladder in the male subject. When there is no anus the case is usually discovered early, and time given for deciding upon the steps necessary to be taken; but when the opening appears perfect, and the obstruction exists at some distance within it, we do not become aware of the circumstance until it is observed that no discharges can be procured from the bowels; or, perhaps, until a vomiting of meconium takes place. As soon as our attention is called to the matter, in such a case, we must institute a careful examination of the anus by means of a probe or flexible bougie, and be guided in further steps by the result of the investigation. The only relief that can be given will, of course, be by an operation; and the exact nature of this must depend upon the particular circumstances. If the anus be merely closed by skin, or a membrane, all we have to do is to make a sufficient incision with a bistoury, and prevent closure of the opening by the use of tents. If there be no vestige of the rectum an attempt must be made to reach it by incisions with the scalpel; and if there be an obstruction in the gut, at some distance from its external opening, its removal must be aimed at with the bistoury or trocar. By some it has been recommended to make an artificial anus in the groin, in cases in which the gut cannot be found. The operation would be a very hopeless one: but a consideration of its merits, and of the exact modes of performing the other operations, belongs rather to the province of the surgeon, than to the child's physician—who, in that capacity has merely to ascertain the nature of the deformity, and must draw upon his own general knowledge of surgery, or apply to another practitioner for the means of its removal.—(*Evanson and Mannsell's Treatise.*)

**Aorta.**—*Compression of.*—Has been proposed to check uterine hæmorrhage by some French writers, particularly Dubois and Chailly. It is questionable, however, if the pressure ought not to be applied rather to the inferior cava rather than the aorta. As fatal hæmorrhages are from veins not arteries, and

particularly the vena cava and heart. When the uterine veins are open there is a great column of blood between the uterus and the right auricle, to the sudden escape of which there is no obstacle but uterine contraction. In those patients who have died from loss of blood, injections driven into the inferior cava from the right auricle readily escape into the uterine cavity by the uterine veins. Compression on the aorta has been successful because, in effect its compression, to a certain extent, has been effected at the same time on the inferior cava, *the real source of supply*. Compression, after all, is only palliative, not curative, it gives time for the successful application of other remedies. Dr. Smith, of London, was one of the first to give this view of the question of compression.

**Apertorium.**—An instrument stated to have been used by some of the earliest obstetric practitioners for dilating the os uteri during parturition, a practice that cannot be too much reprobated, however efficiently accomplished, except in some few very particular circumstances. The apertorium was a most barbarous machine. Wa (the Ed.) should doubt if it ever had been, or could be used. A sketch of it will be found in the work of "Rusff," "The expert Midwife," Edit., London, 1637, page 105, and other old writers.

**Aperture.**—In obstetrics this term is applied sometimes to the entrance into, and exit out of, the pelvis, as upper and lower aperture. Vide article *Pelvis*.

**Aphoria.**—(From *a* neg. and *φέρω* to bear.)—Barrenness. See article *Sterility*.

**Aphrodisia.**—(*a*, *α*. f.; from *Ἀφροδίτη*, Venus.)—The act of generation.—According to Paracelsus, the age of puberty.

**Apleuroa.**—(From *a* priv., and *πλευρά*, or *πλευρον*, a rib.)—Galen applied this term to a person who had no ribs. Development might be arrested so as to present such an anomaly.

**Apocyesis.**—(From *απο*, and *κνω*, to bring forth.)—Apocyesis, F.—Apocyesis Parturicio, L.—gebaren, n., geburt, f., G.—The act of bearing a child—labour. See article *Parturition*.

**Apogalactismus.**—(From *απο*, and *γαλα* milk.) Apogalactisme, F.—Apogalactismus, L.—Sevrage, m., F.—die entwöhnung von der mutterbrust, G.—The act of weaning, removal of the child from the mother's breast, to relinquish the mother's milk for other diet. See article *Ab lactation*.

**Apogonum.**—(From *απο*, and *γίνομαι*, to beget.)—Hippocrates applied this term to a living fœtus in the womb.

**Apolyxis.**—(From *απολύω*, to release.) Obstetrically this term was applied by both Galen and Hippocrates to the act of emptying the uterus of its contents in labour, as the fœtus and placenta. The same term was also used as expressive of the termination of any disease.

**Apopallaxis.**—A term formerly applied to the expulsion of the fœtus prematurely,—an abortion.

**Apophraxis.**—Suppression of the menstrual discharge.

**Apophtharma or Apophthora.**—From *αποφθείρω*, to corrupt.)—A term for the early expulsion of the fœtus.—See *Abortion*.

**Apoplexia Infantum.**—(*αποπλησσω*, I stupify.)—Apoplexia, L.—Apoplexie, F.—Schlagfluss, m., G.—A suspension of the power of voluntary motion

and of feeling, with a continuance of circulation and respiration. This is the general character of apoplexy. A form of this disease has been observed to attack children, arising chiefly from the irritation of worms, teething, or retention of vitiated matter in the intestinal canal, and is not uncommon. The pupils are mostly dilated, sometimes however contracted,—the skin warm. The attack is generally sudden, though sometimes gradual; the former is supposed to result from cerebral hæmorrhage; the latter from effusion of serum: sometimes hemiplegia on one side and convulsions on the other. If infantile apoplexy occurs at the termination of other diseases it is generally fatal. It is always dangerous, and requires energetic treatment. The constitution does not appear to suffer much if the attack comes on and goes off speedily, but if it continues for days the prognosis is always unfavourable; and if the child should survive it becomes a pitiable object, from the mischief effected on the cerebral and other functions. A rapid irregular pulse; hot and perspiring skin; motions and urine passing involuntarily; may be considered the forerunners of a fatal termination. It is necessary to distinguish it from syncope, which can easily be done by the pulsation at the wrist, and warm surface of the body. It is unnecessary to enter into the theory of apoplexy; it is yet even but little understood. The reader may read advantageously the article *Cerebral Apoplexy*, in the *Cyclopædia of Practical Medicine*, by Dr. Clutterbuck, who argues in favour of an obstruction of the circulation, whilst older writers supposed a greater current of supply to the cerebral mass. It has always appeared a matter of difficulty to us (the Ed.) to explain how the skull and cerebral mass, capable of holding a certain quantity of blood, can, by any possibility, *hold more than that quantity*. The lesion of the tissues is no doubt the immediate cause of mischief, but how that lesion is produced is not satisfactorily shewn. After death, examinations do not add much to our knowledge on this question. Effusion of blood is sometimes found between the cranium and dura mater, and again between the dura mater and the arachnoid coat, but this more rarely. The blood is occasionally separated, presenting both serum and crassamentum; but more frequently the blood retains its homogenous form, and appears as dark purple black coagulated spots, sometimes extending over both hemispheres and attached to the arachnoid surface of the dura mater. The colouring matter of the effused blood is occasionally absorbed when the effused portion becomes transparent and resembles the arachnoid tissue.

**Apopallesis.**—The premature expulsion of a fœtus. An abortion.

**Apopepaphesis.**—From *απο* and *ψυφείω* to emit wind. The emission of wind by the anus or the uterus.

**Apostema.**—Vide *Abscess*.

**Apotochus.**—(From *αποτῆνω*, to bring forth), a term for abortion or premature birth, used by Hippocrates.

**Apparatus.**—Obstetrically this term is applied to all such articles as are in use by the practical obstetrician, viz., forceps, lever, blunt hook, perforator, tractor, scissors, lancet, ligatures, lungs inflator, catheter, bandages, plugs, bone forceps, pomatum, and many others, including medicaments, as ergot, opium, chloroform, aperients, &c. &c.

**Appetite. Depraved.**—See *Pica*.

**Aphthæ.**—**Vesicular Stomatitis.** The form of ulceration most commonly seen in the mouths of children is the small circular white ulcer, called aphthæ, and which occurs with them in a truly idiopathic form, (especially at the period of teething, being seldom seen before that time) and is not necessarily connected with any constitutional or other cause, as is always the case when they appear in adults. Most generally, however, aphthæ arise in connection with derangement of the digestive organs; and are hence oftenest seen in children artificially fed, and whose food not being properly digested, becomes a source of irritation to the stomach and bowels. We also see aphthæ appearing in the mouths of children sympathetically with disorder of some part of the intestinal canal, which is itself similarly affected. Thus, in the advanced stages of gastro-intestinal disease, aphthæ may spread from the stomach to the mouth, or co-exist at the same time, in two distant parts, being visible at the verge of the anus as well as inside the lips—but this does not necessarily imply that the whole intestinal tract is occupied by the disease. When situated far back in the mouth or on the pharynx, aphthæ are liable to spread downwards, either into the œsophagus or air passages; the former is most likely to occur: but it is only in children much broken in health, or placed in crowded and unwholesome situations, that such in general takes place. Under those circumstances many children may be found affected with the disease at the same time; aphthæ appearing to spread epidemically; they are also capable of being communicated by direct contact to a similar structure, as true aphthæ have been taken by kissing the lips of an infant affected with the disease; but the nipple of the nurse does not seem to be affected with this form of ulceration, though often made sore or excoriated, from suckling an infant affected with the disease. *Symptoms.*—An inflammatory condition of the mucous membrane of the mouth, does not appear to be a necessary antecedent to the appearance of aphthæ, neither is the aphthous ulcer always surrounded by a red or inflammatory border. The mouth, however, is usually hot, and the child fretful and uneasy. The appearance of the ulcer is that of a small white spot or speck, occurring singly or in clusters, on some part of the mucous membrane of the mouth or throat. When single or few, aphthæ are usually found on the inside of the lower lip, on the gums or on the tongue. When numerous or confluent, the inside of the cheek is often quite covered with them, or they extend backwards to the fauces. In these cases the aphthæ become covered with a continuous crust or coating of a whitish hue; but on this being removed, or becoming detached, the ulcerated points are visible beneath; and the secretion by which they had been covered, is quickly renewed. The whole process takes three or four days for its completion, from the bursting of the vesicle to the formation of the crust and the cicatrization; but a succession of single aphthæ may continue for several days or even weeks. When two or more run together, or become *confluent*, they are much more slow to cicatrize; and altogether an attack of aphthæ usually runs a course of eight or ten days. The crusts, on being swallowed, become a source of irritation to the stomach and bowels, and it is thought that the disease itself may be thus propagated to these parts. The bowels are usually deranged when aphthæ are present, being costive, and the secretions vitiated; or frequently diarrhœa attends, and acidity of the stomach is present: but



there is not in general much accompanying fever, especially if the child be very young. Difficulty of mastication or deglutition may attend, the child being unable to suck, and so becoming restless and peevish from hunger; but we should especially note any alteration in the tone of the voice, peculiarity of breathing, or the occurrence of cough. When aphthæ present a yellowish or dark coloured appearance, we should be careful to examine whether this be caused merely by their being tinged with bile or blood, or is an indication of their assuming an unhealthy or gangrenous character. Such may be apprehended when we see in very delicate children or protracted cases, crusts of this description succeeding to the white appearance at first presented. When aphthæ do become gangrenous, the surface grows brown, being covered with a hard eschar, or one soft and pultaceous; but when detached, the part beneath appears very red or granulated. The edges of the ulcer assume a torn, soft, or burned appearance, and the surrounding parts are soft and easily depressed, being swollen, and of a violet hue. As the disease advances, the mouth hangs open, allowing the saliva to escape, and a fetid odour usually attends. This condition is most liable to occur where aphthæ are situated at the back of the fauces; and seem to constitute that form of the complaint, known of old by the name of the *black thrush*, but which is not often witnessed except among the most wretched of the children of the poor. *Diagnosis and Prognosis.*—Aphthæ are particularly characterised by their small size, circular shape, and white colour, appearing like small white round dots or specks on the inside of the mouth, and leaving a slightly depressed or ulcerated spot on the removal of this white covering or crust. So long as they retain this appearance, not showing any disposition rapidly to spread, nor the child's strength in any remarkable manner giving way, no apprehension need be entertained respecting the presence of aphthæ, which are not attended with danger in themselves, even though numerous or of long standing, though they may prove troublesome from liability to repeated attacks; but when they shew a disposition to alter their appearance, assuming any of the characters already pointed out as indicative of their taking on an unhealthy action, or when they proceed to spread along the pharynx, much danger is to be apprehended. In the first case we have not merely to dread the occurrence of gangrene, but must look upon the alteration in the appearance of the ulcers, especially when occurring in the advanced stage of intestinal disease, and accompanied by prostration of strength, as indicating a state of constitution in which recovery can hardly be looked for. When aphthæ occur symptomatically, or during intestinal disease, they appear more on the fauces than in the idiopathic variety, and are in general an unfavourable symptom, but not necessarily a dangerous one, so long as they retain their healthy aspect, and the child's strength holds up. The extension of aphthæ down the œsophagus, though a serious symptom, is of little moment, compared with the danger that attends the extension of the disease to the air passages. When the child's voice becomes hoarse or indistinct, the breathing stridulous or spasmodic, with fits of suffocation and cough, immediate danger threatens, if indeed the case be not hopeless; for those who have not witnessed it, could scarcely credit the small amount of ulceration that seems capable of destroying life, if once aphthæ pass, or even reach the rima glottidis.

**Pathology.**—Apthæ in general are seen to originate in an eruption of small, white vesicles, filled with a gelatinous or puriform fluid, but unless watched from the first, the vesicles may be overlooked. Ulceration succeeds, or a crust is formed of a white, pultaceous matter, consisting in the first instance of the collapsed cuticle left after the bursting of the vesicle, and then of a thin layer of lymph or concrete pus, or even of a slight slough, which leaves, on being removed, an ulcerated spot beneath. M. Billard, however, represents apthæ as truly an ulceration of the muciparous glands, or follicles, which becoming inflamed, soften in the centre, and ulcerate. But, as Dr. Benson justly observes in his valuable lectures, (see *Medical Press*, vol. v.) “the superficial character of an apthous ulcer is very different from the deep set ulcer of a mucous gland.” **Treatment.**—When apthæ are merely a local affection, they may be often quickly removed by local means alone; but in most instances attention must be paid to the general state of health, particularly the condition of the bowels; and a mild laxative will in some cases at once remove the disease. When the bowels are merely costive, a dose of castor oil will be sufficient for this purpose, but if acidity of the stomach, or derangement of the secretions, be in addition present, we must have recourse to the pulv. rhei et magnesiae, or the pulv. rhei comp, as advised at p. 184, 186. We should be careful, however, to avoid irritating the bowels or stomach by the use of purgatives or emetics, although an emetic may occasionally be serviceable at the commencement of the disease; but when of long standing there is risk of adding to the irritation already going on in the mucous membrane. When diarrhoea occurs, or the apthæ appear during its presence, the chief attention must be paid to allay the irritable state of the bowels, and to support the strength when this begins to fail; particularly when the apthæ assume an unhealthy aspect. Small doses of the hydrargyrum cum creta, with Dover’s powder, may in the first instance be employed, and then the compound powder of chalk, with or without opium, according to the urgency of the symptoms. Regulation of diet or changing the nurse, attention to cleanliness, the occasional use of the warm bath, change of air, or at least free exposure to the fresh air, are essential in protracted cases; or when apthæ are prone to recur. When the ulcers present an unhealthy aspect, we must early have recourse to the quinine mixture, and in the more advanced stages, the free use of ammonia will be found specially serviceable. The local applications to be used in the treatment of apthæ differ little from those recommended for the treatment of simple ulcerations of the mouth. The solution of borax in the first instance, and that of alum subsequently, will be found most serviceable—when the apthæ are few or very irritable, touching them lightly with nitrate of silver, will best dispose them to heal, and lessen their sensibility. In the more protracted cases we have derived signal benefit from the linctus of sulphate of copper. A solution of chloride of soda answers well to correct the fetor when the ulcers show an unhealthy aspect; but should sloughing actually occur, we must have recourse to the more decided measures required for gangrenous ulceration.—(*Evans & Mann.*)

**Arachnitis, confined to the base of the brain,** there is fever, general languor, and depression. Pain is complained of in the forehead or temples; but the intellectual faculties are undisturbed. The head is hot; the child moves it

from side to side, or sinks it heavily on the pillow. Vomiting attends, and more or less of drowsiness is present. Spasm now begins to appear; and in this affection, in particular, generally affects the mouth, the eyes, or the upper extremities. Frequent working of the tongue and lips, or motions of the lower jaw (*machonnement*) are observed; or the hands and arms are convulsed at intervals, or for a long time together. A sudden, and often complete loss of the intellectual powers and senses, as well as of the general sensibility, at the same time occurs. We have often to notice in this affection, as we did in hydrocephalus, the occurrence of remarkable, but deceitful remissions of the symptoms. But convulsions again occur; coma sets in; the pupils become dilated; the pulse very slow: and a state of complete relaxation of the limbs precedes death. This affection is often accompanied by *spinal arachnitis*, which we judge of by the stiffness of the muscles at the back of the neck, and the pain complained of in this part. The head is often observed to be retracted, or moved from side to side: the former circumstance being considered as indicative of that part of the arachnoid which covers the *pons Varolii* being in particular implicated in the disease; the latter, that the inflammation has attacked the upper part of the medulla oblongata. Children are not exempt from *arachnitis of the upper surface of the brain*, though this affection occurs less frequently with them than the other variety. In one remarkable case which we witnessed, a thick, tenacious layer of lymph was effused on the arachnoid of the anterior lobes of the brain. The child had been seized suddenly with severe convulsions; the head continued hot, face red, and eyes suffused; high fever followed, with delirium, violence of temper, general convulsive movements of the limbs, coma, paralysis, and death on the fourth day. A brother of this child was seized in a similar manner, when about the age of the former patient; but was seen early, and under the use of active depletion, the disease was arrested in its first stage. *Pathology.*—After the pathological remarks made at the beginning of this section, much does not remain to be said of the morbid conditions of the brain connected with hydrocephalus. These will vary according to the form and duration of the complaint. If the disease run a rapid course, and be of the acute inflammatory kind, little or no fluid may be effused; and even the membranes may appear to be only slightly injected. In other cases, where water is not found, it appears to have been absorbed before death, as the ventricles are found dilated, though empty; and we know that such at times occurs with other dropsical effusions. The water effused in the very rapid attack already alluded to (p. 408), is usually found to be turbid or whey-like. Flocculi of lymph are occasionally seen in the serum; but in general, the water is limpid, of a light straw-colour, and not exceeding a few ounces in quantity. The average extent of the effusion may be estimated at four or five ounces; occasionally it amounts to seven or eight, but in some cases of chronic hydrocephalus to much more, the fluid being generally of a deep citron colour. The mere circumstance of a small quantity of serum being found in the ventricles after death is not to be looked on as a proof that hydrocephalus had existed during life; for such usually takes place previous to death in cases of protracted illness, or may be induced by the very means taken to avert it; as we doubt not, we have seen done by excessive depletion injudiciously employed in

the cerebral affections of children. The fluid effused in hydrocephalus is usually situated in the lateral ventricles, which are in consequence distended, the dilatation being most remarkable towards the digital cavity. The foramen is often considerably enlarged; but, in general, little fluid is found in the third or fourth ventricles. This effusion into the ventricles constitutes the hydrocephalus internus of the old writers—an unnecessary distinction, as it does not appear to have been established that hydrocephalus externus exists. The serum effused in hydrocephalus is often not coagulable by the action of heat or acids, or only very slightly so; but this is not uniformly the case. In consequence of the distension of the cerebral substance, consequent on the effusion, we find the superior convolutions of the brain much flattened and depressed, or it may be stretched into a thin covering, a sense of fluctuation being perceptible on removing the skull. The vessels on the surface of the brain may be in a state of congestion, or the pia mater injected with blood; but this is not a frequent appearance. The arachnoid on the convex surface is usually dry; but beneath that at the base of the brain, fluid is often found effused. When this is the seat of morbid action, the arachnoid will be dull, opaque, or covered with layers or granules of lymph; but that lining the ventricles is often unchanged, though much fluid be effused. Laennec speaks of extensive tubercular depositions throughout the brain; and Dr. Gerhard describes tubercular deposition on the membranes. We have certainly seen some cases of this description. The substance of the brain in acute hydrocephalus is generally softer than natural, except in some cases which run a very rapid course. Ramollissement is most generally found in the central parts of the brain, in the fornix, corpus callosum, or the digital cavity. In chronic hydrocephalus there is incomplete ossification of the bones, with separation of the sutures, or in some cases total absence of bony matter; in other cases, again, especially some that were congenital, a great expansion of the cranial bones has been observed. Of the secondary lesions, or complications, found after death in hydrocephalus, a morbid condition of the intestinal mucous membrane, or the liver, has been most frequently remarked; and this coincides with the fact already noticed, of hydrocephalus originating so often in derangement or disorders of the digestive organs. The lungs, also, are not unfrequently found inflamed. *Diagnosis.*—The circumstances most characteristic of this disease, and which distinguish it best from others, are,—the particular expression of countenance; the peculiar cry or scream; the variability and successive changes in the character of the pulse; the irritability of the stomach; the costive state of the bowels, with a peculiar green appearance of the evacuations when obtained, and the suppression of urine,—cerebral excitement being succeeded by convulsions, coma, or paralysis; all which signs have been dwelt upon in describing the symptoms of the disease. The occurrence of one or more of these symptoms during the existence of infantile fevers, should lead us to apprehend hydrocephalus, which may occur either as a sequel to any of them, or commence, itself, with symptoms so similar, that the disease may be established before its existence is suspected,—there being, in fact, often no means of accurately distinguishing between simple remittant fever and the first stage of hydrocephalus. The same may be said of those disorders of the cerebral system

which we have described under the name of functional; for the establishment of a diagnosis between any of those and hydrocephalus, we must refer to our detail of the symptoms of both, and recommend a careful collation and comparison of these in every individual case. We must often, however, expect great difficulty in ascertaining, in any particular instance, whether convulsions, or symptoms of irritation of the brain, or of the hydrencephaloid disease, are purely functional, or must be referred to organic lesion. Whenever doubt exists, it will probably be encountering the least hazard to consider that the latter is present. The symptoms of chronic hydrocephalus are so well marked, as sufficiently to distinguish it from other diseases. With respect to the other varieties of the complaint, as the various forms of arachnitis, &c., their diagnosis from each other must be attempted by a comparison of all their symptoms; a matter always of much difficulty. The *Prognosis* must be in all cases guarded, but, even in those apparently the worst, need not be hopeless. We have seen that the most alarming symptoms may exist, without these being certain proof of any irreparable lesion; and, notwithstanding such symptoms, recovery may take place. When the cerebral symptoms have come on insidiously, however, at the sequel of a previous disease, in a child of a strumous habit, or one having a family predisposition to the disorder, much danger is to be apprehended, and the result is most frequently fatal. The more acute the inflammation, on the contrary, the greater in general is the chance of cure, and the better is active depletion borne,—such cases usually occurring in healthy children. Recovery may also be generally effected, when the disease sets in subsequently to scarlatina, if we are prepared to meet the case, as the symptoms are often very sudden and acute. That form of the disease which is connected with inflammation of the arachnoid at the base of the brain is very dangerous, as alterations of structure, and the growth of false membranes, are so liable to occur. That variety of chronic hydrocephalus which succeeds to an acute attack, is almost always fatal; but its more common form, when once established, does not seem of itself directly to shorten life,—the patient generally dying of some other disease: Gölis thinks this form of the complaint may frequently be cured. When coma, convulsions, or delirium, attend upon chronic hydrocephalus, or an acute attack supervenes, the disease generally proves fatal. Congenital hydrocephalus is almost invariably incurable. The condition of the secretions, and the pulse serve, in particular, to guide us as to our prognosis in any particular case. When the bowels become easily moved, while the evacuations grow natural, the flow of urine increases, or a copious warm perspiration breaks out, we have very favourable signs; and with these, some running at the nose is occasionally observed. As to the pulse, Cheyne says, “that so long as it continues steady, while the breathing is natural, we should not be deterred by other symptoms, however formidable, from entertaining expectations of recovery.” When the pulse falls suddenly, however, and remains slow, until it again rises with extraordinary rapidity, while the breathing becomes unequal and irregular, we augur very unfavourably, seeing that the case runs on through the usual stages. We must be careful to distinguish between the gradual diminution of the pulse, indicative of a subsidence of fever, and this sudden fall or protracted slowness connected with the second stage of the

disease. As careful must we be to distinguish between those deceitful and temporary remissions in the symptoms already alluded to, and the protracted improvement of some days' duration, which we may rely upon as indicative of recovery. So long, however, as the pupil continues dilated, or is very slow to contract, we must dread relapse, even though recovery may have apparently taken place. The spontaneous occurrence of a cutaneous eruption has in some instances appeared to expedite recovery, in protracted cases; but a particular kind of eruption, consisting of almost imperceptible vesicles, is occasionally observed to occur on the face or upper parts of the body, towards the end of the disease, and is to be looked upon as an unfavourable sign. Continental writers mention this eruption as a constant attendant on hydrocephalus, but it is seldom noticed in this country. *Treatment.*—In undertaking the treatment of a case of hydrocephalus, we must be guided by the form of the complaint, and the stage or period at which we see it. In the acute attack, when recently seen, our treatment must be actively and perseveringly antiphlogistic. Blood-letting, purging, and cold applications to the head, with subsequently the use of counter-irritation, constitute our chief resources, and their full employment will often prove successful. In the low form of hydrocephalus, or when the disease is chronic, active depletion is not admissible, though the moderate use of antiphlogistic measures may be occasionally called for; but we cannot expect here to effect a cure merely by active depletion, as may be done in the other form of the complaint. Leeches occasionally, and in all cases, cold to the head, followed by active counter-irritation, while we keep the bowels open, or try to improve the secretions by alterative doses of mercury, appear to be the means on which most reliance is to be placed, in these forms of the complaint; while we at the same time take care to support the strength by a supply of light but nutritious food. *Blood-letting* should be carried to such an extent, when first employed in the acute variety, as to make a decided impression: and general blood-letting may require to be repeated, but the substitution of leeches will frequently answer. In the less acute or more protracted form of the disease, a frequent repetition of the leeches may be required; although the application of a large number on any one occasion would not be advisable. When the hydrocephalic symptoms occur during the existence of disease of the lungs, or particularly of the digestive organs, the application of leeches over the seat of the original disorder will often more effectually relieve the head, than if they were applied directly thereto. *Mercury* has been employed specifically in the treatment of hydrocephalus, but its use has been much overrated. In the acute form, the constitutional action of mercury, after blood-letting, has certainly aided in cutting short the disease, as we see occur in other internal inflammations; but in the low or strumous variety of the complaint, the production of salivation does not appear to exercise any special influence in controlling the symptoms; for though these may be mitigated thereby, the case will generally proceed to a fatal termination. Small doses of calomel, given so as to act as an alterative, appear to effect all the good that can be looked for from mercury, in this form of the complaint; which good seems to arise from the improvement thus effected in the condition of the digestive organs. In chronic hydrocephalus, Gólis regards this plan of treatment, aided by counter-irritants to the

head, as the best that can be pursued, and states that it is often successful; but condemns the employment of the large doses of mercury commonly in use. Corrosive sublimate has been occasionally employed with success. In either of these forms of hydrocephalus, however, and even in the second stage of the acute variety, we much prefer the use of iodine to that of mercury, and have seen some cases of its signal success. *Iodine*, to be effectual, however, must be largely employed, both internally and externally. The combination of iodine with mercury, in the proto-ioduret, would seem to present particular advantages. The ointment of bin-iodide of mercury appears eligible for producing speedy and effectual irritation over the scalp, while it at the same time has a tendency to affect the constitution, so as to induce salivation. The tonic or stimulant properties of iodine have also their advantage in the treatment of hydrocephalus, under these circumstances; and its diuretic power may enable us to dispense with digitalis, squill, &c. &c.,—once of much repute, but little to be relied on in the treatment of this disease. *Digitalis* is an unmanageable medicine in affections of the head, and its diuretic powers particularly uncertain in hydrocephalus. It should never be employed in the acute form or earlier stages of the disorder; but in chronic hydrocephalus, or that variety occurring in connection with anasarca after scarlet fever, frictions with tincture of digitalis, or squill, extensively applied over the surface of the body, appear to have been practised on the continent with some success. *Purgatives* are of great service in the early stages of hydrocephalus, especially when presented in the acute form; but their employment requires judgment and caution. In general it is very difficult to move the bowels in this complaint, and the most active purgatives may be required; but, in consequence of the irritable state of the stomach, we shall often be obliged to resort to enemata to effect this purpose. Purgatives after blood-letting, however, will often produce free evacuations, although they had before failed to move the bowels. When irritation of the intestinal mucous membrane is present, we must be careful to avoid active aperients, and rest satisfied with mild enemata. *Antimonials* will be found of much service in mitigating increased cerebral action, and have been used with advantage in the early stage of hydrocephalus by Cheyne and Mills. Vomiting, should, however, be guarded against; but Laennec has proved that *tolerance* of tartar emetic can be attained in affections of the head. James's powder is a more manageable preparation, and may be given alone, or combined with calomel or cartharica. *Opium*, employed after blood-letting and purging, alone, or in combination with antimony or ipecuan (as Dover's powder), is often of great service, particularly in the second, or even third stage of the disorder, by lessening the frequency of the convulsions, allaying pain, and even rendering the pulse more full, and less irregular. The use of opium, when once commenced, should not be suddenly discontinued; but when contraction of the pupil ensues from its employment, this is to be looked on as a sign that the use of the medicine has been carried far enough; nor should we attempt to control the convulsions sometimes attendant on the inflammatory stage, by opium, independently of antiphlogistic means. During the progress of hydrocephalus, we must not forget the necessity for supporting the strength; and in the advanced stages, light bitters, tonics, or even stimulants, may be required.

Strong coffee or tea will at times dissipate coma, rouse the circulation, and restore warmth to the skin. Direct stimulants, as ammonia, ether, camphor, or musk, will in some cases be required; and particular efficacy has been assigned by some practitioners to certain medicines, as the calamus aromaticus, serpentaria root, arnica montana, &c. but their utility is not sufficiently established. A large blister applied over the head is often of great service at this period. When distinct intermissions are to be noticed in the progress of the complaints, indicated by alternations in the heat, and chills of the surface, flushings and paleness of the face, with excitement and depression of the animal powers, M. Piorry specially recommends the use of Peruvian bark, given in the form of enemata, and to the extent of from two scruples to two drachms at a time. The period for exhibiting the bark is during the time of intermission, when the face is pale and system low; and the bark in substance was found to be much preferable to quinine. In the treatment of chronic hydrocephalus, principal attention must be paid to support the strength, while we at the same time improve the general health. Counter-irritation must be freely and frequently applied to the head, and setons or issues inserted in the neck. Warm baths\* are of much assistance; and we may avail ourselves of the alterative action of mercury, or the specific influence of iodine, in attempting to cause absorption of the effused fluid. Antiphlogistic measures may be occasionally necessary; but should never be intemperately applied. Compression of the head has been used to assist the action of the absorbents in diminishing the effused fluid; or this has been in some cases evacuated by puncture, tapping the head having been resorted to with success in a few instances.† To prevent the occurrence of hydrocephalus in children predisposed thereto, we should place them in a dry, warm, and elevated situation; avoid all causes of mental excitement, in particular, early or excessive exercise of the intellectual faculties; and as medical measures, pay especial attention to the state of the bowels and regulation of the diet. An issue kept open in the arm or neck, during childhood, has undoubtedly exercised a control in averting hydrocephalus in families predisposed to the disease.

**Arch—Of the Pubes.**—That part of the pelvis forming a portion of the outlet, and composed of the anterior portions of the ossa innominata, or, speaking more correctly, by the convergence of the rami of the ischium and pubes. This arch is much more expanded in the female than the male pelvis, hence the outlet of the female pelvis is more capacious and better adapted to child-bearing. It is of material consequence for the obstetrician to know the peculiarities of this portion of the pelvis, for on them depend questions of considerable importance in obstetric practice.

**Arcuation.**—Arcuation F. Arcuation L. Krümmung, f. G.—Curvature of

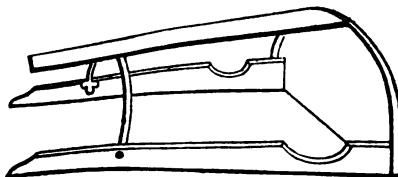
\* In continental practice the use of medicated baths is much relied on in the treatment of chronic hydrocephalus. Alkaline solutions seemed to be preferred by Gollis; but Reclamier and Andrieux recommend tartar emetic (one ounce gradually increased to four or five in each pailful of water), which appears, when thus employed, to cause a copious flow of urine, the patient growing thin, and the size of the head at the same time diminishing.

† Cases are recorded by Dr. Coquebert, see Lancet for 1830; by Mr. Lisart, in Edin. Med. and Surg. Jour.; by Dr. Voss, in the Med. Chir. Tran. vol. ix.; and others.



the bones; and especially the anterior projection of the sternum, commonly termed pigeon-breasted; for further particulars see article *Rachitis*.

**Arcutio.**—A mechanical contrivance entirely unknown in England, but formerly used in Florence to protect children from being suffocated, or what is usually termed *over-layed* in the bed clothing. The design here given is in perspective, the machine is 3 feet 2½ inches long, and 1 foot 1 inch in breadth. The child is placed beneath it, and the mother when suckling puts the breast over the part hollowed out at the side. In a work entitled the "*Art of Nursing*," published in London, 1733. It is stated in respect to the *Arcutio*, that every nurse in Florence is obliged to lay the child in it, under pain of excommunication. When the child is placed in the *arcutio*, the same work states it may be safely left under the bed clothing in winter without danger of being smothered.



**Areola.**—(Dimin. of area). *Arèole* F. *Areola* L. The areola in an obstetrical sense is applied to the coloured disk which surrounds the nipple of a human female, of a pale reddish colour, and which, during pregnancy, alters considerably both in extent of outline and colour, so as to afford some proof of the time which pregnancy has existed. The reader will find a series of beautiful plates illustrative of this subject in Montgomery's work on the signs and symptoms of pregnancy well worth his inspection.

**Aristolochia.**—(From *ἀρίστος* excellent, and *λοχία* childbirth, or the discharge subsequent). *Aristolochie* F. *Aristolochia* L.—The name of a genus of plants, so called because they were supposed to be very useful when given to women after childbirth to promote the discharge of the lochia. *Aristolochia medicamenta*, medicines which promote the flow of the lochial discharge.

**Aristotle.**—(Stagyrites). Flourished about 384 B. C., according to Lempriere he died B. C. 323. This difference of date is difficult to reconcile; he is generally represented as born at Stagyræ, and a tutor of Alexander the Great. Aristotle was one of the first supporters of Plato, but afterwards left to establish his own particular opinions; although generally considered as a philosopher, in the wide sense of the term he was indisputably a physician. It is stated he wrote a treatise on midwifery and the diseases of women and children, but his commentators make no mention of it. It is probable, however, that this statement arose from his treating largely on generation and conception in his great work "*Historia Animalem*." The time and manner of his death are variously reported; by some he is said to have died a natural death in the second year after that of his pupil Alexander the Great; by others, that he threw himself into the *Euripus*, because he could not satisfactorily explain the causes of flux and reflux.

**Armatura.**—(A species of harness.) The intra uterine membrane termed the amnios was so called from its surrounding the fœtus like harness.

**Aritæus** of Cappadocia, flourished about 300, according to some authors, B. C., others, A. D., 132, and others, A. D. 350, which shows how very uncertain and how very little to be relied on is early chronological information. Aritæus is styled a Greek physician in the time of Vespasian. He was the first to describe the disease Elephantiasis found among the Greeks as originating from the Egyptians. He writes fully also on female diseases. In his works are also found, for the first time, a description of hydatid dropsy, which is clear enough, but of which he neither understood the nature nor origin. There is but one book handed down to posterity of this author's, and it is divided into eight parts; the style is concise, and close as that of Hippocrates. Galens' theories are not found in his writings, hence it is probable he never saw Galens' works, or did not approve them. A copy of this writer's works was published at Oxford in 1723, entitled "*Opera Omnia, de curatione morborum, &c., Græci; cum novâ versione Latinâ, et notis, per Johannem Wigan.*" A small copy dated Paris, 1554.

**Armstrong, George, M.D.**—Published a work on the Diseases of Women and Children, which held a respectable position for a considerable period. Another edition, with additions, was published at London in 1783. Another edition, by Dr. Buchan, in 1808.

**Armstrong, John, M.D.**—Published an excellent Essay on Puerperal Fever at London, 1819, well interspersed with practical facts.

**Arrachement.**—*α. m. αποσπασμς the part torn away.* Abruptio, avulsio, I. —Arrachement, F.—Abbrechung, abreissung, f. G. In surgery, *Abruptio*. The operation of forcibly tearing away a part. See *Abruptio*.

**Arrhœa.**—(*α. æ.*; from *α*, neg. and *ρῆω*, I flow.) Arrhœa, F.—Arrhœa, L. The suppression of any natural discharge; chiefly applied to the suppression of the menses.

**Arriere-Faix.**—A French term applied to the mass of the placenta and membranes.

**Artificial Feeding.**—The necessity of resorting occasionally to artificial feeding obliges us to consider how we can render it least injurious, for such is really the question; although, we do not mean to deny that in certain instances healthy children have been reared in this way. There are, notwithstanding, exceptions; for extended experience, in different countries, has proved that spoon-feeding is generally unsuccessful. The kind of artificial food to be employed forms the subject of our inquiry; as a general rule, we may say that it should be as like the natural nutriment as possible. This rule, however, is easier laid down than acted upon: "for nature," says Dr. Prout, "will not permit the chemist to officiate as her journeyman, even in the most trifling degree. In the present state of our knowledge, then, it is vain to attempt any preparation, upon chemical principles, resembling human milk. It will be better to be satisfied with employing the food of some other young animal, and modifying it, so as to make its properties, as nearly as possible, similar to human milk. For this purpose, cow's milk is the most convenient; and as it is not so sweet as human milk, we may add to two parts, one of very thin barley water, with sufficient white sugar to make the necessary increase in

sweetness. Asses' milk approaches more nearly to what we require, but is richer, and requires to be diluted with a third part of water. So modified, it may be used, if it can be procured. As the child becomes a little older, thin bread pap may be employed, and it will be advisable to give occasionally, some light beef or chicken tea. In spoon-feeding, all our ingenuity will be required to vary the food; as one which agrees well with the infant at first may, after a little, derange the bowels, and produce acidity, gripes, purging, or costiveness. Thus, prepared barley, dressed with water and unboiled milk, will sometimes purge—an effect which may be obviated by having the milk boiled. In other cases, we must employ good arrow root, for a short time, for the purpose of restraining the bowels, and again recur to the barley when costiveness has been produced. A great matter is accomplished if we can prevent the production of acid fermentation in the stomach and bowels; and, on this account, we must be most particular in requiring every article of food to be freshly prepared before use, and in enforcing the strictest attention to cleanliness with respect to every vessel employed. All food should be used tepid or lukewarm—96° or 98° F.—the natural temperature of milk. Our second inquiry relates to the mode of administering food. This may be accomplished either with the spoon or bottle.\* The former has the advantage of leaving less opportunity for uncleanness, as a spoon is easily washed, and its condition at once perceptible; while the bottle may appear clean, and yet contain acidity, which will do material injury. On the other hand, the bottle has the advantage of giving out the food somewhat analogous to nature; with it the child has some trouble in procuring what it wants, and will not therefore be likely to take too much; the action of sucking must also be practised, whereby a degree of pressure is made upon the child's salivary glands, and the necessary secretion from these organs, in all probability, usefully promoted. In the earlier periods, we think, the bottle possesses, in these respects, decided advantages; but while using it, too much precaution cannot be taken to secure cleanliness. No food should ever be allowed to remain in it after the infant has been fed: and there should always be two bottles in the nursery, in order that one may be exposed to the air, and dried, while the other is in use.—*Eranson and Maunsell's Treatise.*

**Arycymon.**—(on, onis. f.; from *αρι* an intensive particle, and *κνω* to be pregnant.) This name was given by Hippocrates to women that bore children very frequently, and were very apt to conceive.

**Ascarides.**—Vide Worms.

**Ascites.**—*Fatalis.* This affection sometimes impedes delivery. It is not difficult to discover this disproportion after the head is delivered, and even to distinguish it from tympanites; in the latter case the face and chest are often more or less puffed.—*Vide dropsies.*

**Asclepiades.**—An eminent Greek physician, died about the year 63, B. C. He is known chiefly as one of the principal commentators of Hippocrates. This author writes clearly on the ulceration of the uterus.

**Ascoma.**—(From *ασκος* a bottle.) This name was given by Rufus, of

\* These bottles have a narrow neck, about the size of the nipple, with a small orifice, covered with a teat of washed shammy leather, through which the infant sucks the food. They can be had at any druggist's, ready for use.

Ephesus, a very early obstetric writer, to the eminence of the pubes at the period of puberty in the female.

**Aspasia.**—A celebrated female obstetric practitioner who, according to Cælius, had great reputation among the Greeks, and was celebrated for causing abortion, and rendering women sterile. Ternie, in his memoir of this person, states that her practice of inducing abortion led Hippocrates to sanction it; for he did on one occasion produce it in a singing girl, more in accordance with the practice of his time, than with his precept against it as a philosopher and philanthropist. The oath which Hippocrates obliged his pupils to take is irreconcilable with the practice stated by Ternie.

**Aspasia.**—An astringent application, consisting of wool soaked in an infusion of galls, used as an application to the pudendum.

**Aspermasia.**—See article Aspertismus.

**Aspertismus.**—(From *a. priv.* and *σπερμα* seed.) Aspertisme F. Aspertismus L. Sammenmangel G. This term has been applied to the inability to eject the semen at the time of coition, and the supposed reflux of the semen into the bladder, it is more probable that the fluid merely escapes without force into the urethra, where it lies.

**Asphyxia.**—*ασφνξια* (*a. priv.*, *σφνξις* pulse). Asphyxie F. Asphyxia L. Pulslosigkeit, f., scheintod, m. G. The term *asphyxia* was long employed by pathologists, as its etymology indicates, to designate *suppression of the pulse—suspension of the circulation*. But it is now commonly understood to signify suspension of all the vital phenomena by causes which operate exclusively, or at least specially, upon the respiratory organs. In reference to obstetrics, we have to consider *Asphyxia neonatorum*. By this term we understand a failure of the vital powers in new-born children, owing to some debilitating or paralyzing influence exerted upon them either just before, during, or immediately after labour, in such a manner that the organic functions appear to be arrested without the actual existence of internal disease. Most authors have described three species of this affection, according as death has resulted from paralysis of the respiratory organs, or of the brain, or from general depression of the powers of life; it appears, therefore, most suitable to the purpose to describe asphyxia under the three heads of suffocative, apoplectic, and nervous. 1. *Asphyxia suffocativa*.—In this form, the respiration either fails entirely, or, after a long interval, a rattling spasmodic inspiration follows. A tedious labour, compression of the cord, everything that interrupts the circulation in the fœtus and between it and its mother, may occasion this kind of asphyxia, as well as mechanical or defects directly impeding respiration. The chief cause of all the symptoms which appear in *asphyxia suffocativa* is the interruption to respiration. The child is generally of a bluish colour, less frequently pale, and the limbs remain tolerably firm. 2. *Asphyxia apoplectica*.—This generally occurs in large plethoric children, and its principal cause consists in an accumulation of blood within the cranium; everything, therefore, which impedes the fœtal circulation and encourages fulness of blood in the brain, may be considered as an occasional cause of this description of asphyxia. In children suffering from this disease, the countenance and skin are of a bluish colour, the former swollen, the eyes protuberant, the tongue thick and rigid, the pulsation of the heart infrequent,

irregular, or altogether absent. 3. *Asphyxia nervosa*.—The causes of this form of asphyxia are very numerous, embracing everything which occasions depression of vital power, or loss of energy in the organic functions. The appearances are as follow; the colour of the skin is very pale, the limbs are flabby and dangling; the lower jaw is dropped; meconium escapes; the pulsations of the heart and arteries are weak, irregular, or scarcely to be felt; respiration is either entirely absent, or else convulsive, with strong heaving of the chest; in many instances this has continued half an hour, then ceased, and the child has died. a. *Etiology, Parental Influence*.—This is a subject of considerable importance in connexion with pregnancy, and deserves attentive consideration. The influence of the father with reference to asphyxia in the child amounts to little or nothing; but in the maternal organism many circumstances may induce it. Anything which delays the development of the womb itself, or interferes with the conditions necessary for the due growth of the ovum, will occasion debility in the fœtus, a diminution of its vitality, and may, therefore, produce *asphyxia nervosa*. We have frequently remarked that weak cachectic nervous women have given birth to still-born children. Diseased conditions of the mother are also very likely to affect the child, and to lay the foundation for asphyxia. To these may be added cramp and convulsions during pregnancy, when asphyxia may appear either as a direct or an indirect consequence. Diseased states of the blood, acute inflammation, pyrexia, fevers, &c., may in like manner exercise an injurious influence upon the child. Mechanical causes are also liable to occasion asphyxia, through separation of the ovum from the uterus. But the most important of all are those conditions which have a tendency to delay the progress of labour, and to hinder or render difficult the passage of the child through the pelvis, or, on the other hand, which very much accelerate it. In the former case, the fœtus is too long subjected to pressure, and its organic functions thus become annihilated; when the labour is too rapid, it does not undergo the necessary changes during labour, and asphyxia is often the consequence. b. *Disease of the ovum and embryo*.—Although this subject is frequently passed over without notice, there is no doubt that the cause of asphyxia is often seated in diseased conditions of the ovum or embryo, as well as in defect of the cord, or malformation of its organs, interrupting its development. Although there are but slight indications of nervous power in the fœtus, there is no doubt that what there is may be abnormal, and unable to perform its functions. Even if, under such circumstances, intra-uterine life go on in a feeble degree, and the fœtus be born alive, yet it may not be able to bear the transition to independent existence, and thus become asphyxiated. Immature children generally come into the world asphyxiated, in consequence of the imperfect condition of their organs, and the asphyxia is either of the suffocative or nervous kind. c. *External causes affecting the mother*, as a blow, fall, kick, or other injury to the abdomen, &c., may indirectly affect the child, and give rise to asphyxia; but this is not a frequent consequence, unless they primarily modify the progress of pregnancy; they must do considerable injury to the mother in order to produce directly asphyxia in the child. d. We have already stated that the principal cause of asphyxia is to be found in the act of parturition; experience sufficiently proves that children are born with as-

phyxia, more especially after labours of long duration. The long continuance of labour may even of itself interrupt the vitality of the fœtus to such a degree as to produce asphyxia, owing to the reciprocal action between the mother and the child necessary for intra-uterine life being more or less modified, or entirely destroyed. When labour lasts too long, the circulation between mother and child, as well as the fetal circulation itself, becomes interrupted, and the fœtus either actually dies, or is found unable, after its expulsion, to maintain an independent existence. The most frequent result, under these circumstances, is *Asphyxia suffocatoria*, next to this, *A. apoplectica*, and only in very weak poor children, *A. nervosa*. The danger of asphyxia from tedious parturition will be much increased if the child be very plethoric. Plethora alone is said by Rosshirt to be sufficient to cause asphyxia; but plethora combined with long-continued pressure, or simply the latter, is a much more frequent cause. When the waters have escaped early, and the labour still lingers, the uterus may contract firmly and even spasmodically round the child; and this general pressure may be injurious by obstructing the circulation between mother and child. But the head alone may be subjected to strong pressure, and this may exert its influence either slowly, as by long continued impaction of the head in the pelvis, or suddenly, as from the use of the forceps. The pressure which acts suddenly is much more injurious than that which operates slowly; and we shall very often find that in a labour of long duration and where the head is compressed, the children will, nevertheless, be born alive. Still it is not to be disputed that such long-continued pressure, when the child is plethoric, may be injurious. Here the asphyxia will be occasioned by pressure on the brain overfilled with blood, and will generally be of the apoplectic and nervous kind. Again, pressure may be made upon the large blood-vessels of the neck, and thus occasion interruption to the circulation, and repletion of the vessels of the brain. The causes of this pressure are twisting of the cord, or spasmodic contraction of the os uteri or os externum, round the neck of the child after the head is born. In this manner *A. apoplectica* will be produced, because the internal jugular veins whose coats are thinner, are more compressed than the carotids, which resist pressure better on account of the thickness of their coats; the return of the blood from the brain will therefore be more obstructed than its influx, and either repletion of the brain or extravasation must necessarily follow. In any case, compression of the cord interrupts the fetal circulation, and therefore constitutes an essential cause of asphyxia; according to Rosshirt, the passage of the blood becomes interrupted, owing to the ready compressibility of the umbilical vein, which conveys the blood from the mother to the child; whilst on the other hand some of the blood may still escape from the body of the child through the umbilical arteries, which are less susceptible of compression. For this reason, children born with asphyxia produced by pressure on the cord, will appear pallid, from loss of blood. Moreover, asphyxia may happen simply from interruption to the circulation, and then we have true *A. suffocatoria*. When the child is born with the inferior parts of the body presenting, whether this position happen primarily or be effected by turning, in many instances the child will come into the world still-born; the chief cause of which is pressure on the cord with retention of the head, whereby first

asphyxia and then actual death will be produced. Asphyxia of the nervous kind may be caused by direct debilitating influences during labour, such as hæmorrhage, laceration of the cord, or of the placenta in placenta prævia. Artificial assistance in difficult labour may also be a cause of asphyxia; we have already noticed that the forceps may occasion it by sudden compression of the head, but they may also, under unfavourable circumstances, produce injury by pressing too forcibly upon the neck or spine. In the operation of turning, after the waters have escaped and the uterus is firmly contracted, the child may be too much compressed, or the spine of the back may be so much curved, that in this way a sufficient cause of asphyxia may arise. The causes of asphyxia *after birth* are obstruction of the air passages by mucous, blood, &c., organic alteration of the thymus gland, by which the entrance of air to the lungs is rendered impossible; also disease of some organs whose functions should be brought into action in extra-uterine life, as congestion of the lungs with blood, diseases of the heart, spasms of the glottis, &c. External causes may also produce asphyxia, such as the influence of cold, the too early division of, or hæmorrhage from, the cord, &c. As regards the prognosis of asphyxia, there is but little to be said. Neither the kind of asphyxia, nor the nature of its cause, determines in an especial manner the prognosis. If asphyxia has existed but a short time before birth, of which however we can never be sure, it is easier to restore life than under opposite circumstances. When it depends upon causes which can be removed, the prognosis is favourable; when otherwise, death will almost always follow, even should temporary resuscitation occur. *A. suffocatoria*, *cæteris paribus*, admits of the best prognosis. According to Rossbirt, a weakly condition of the child is an especially unfavourable circumstance; we agree with him, however, only so far as to admit that when the birth is premature, the probability of saving the child is very small. In, the *treatment* of asphyxia, it is necessary in the first place to ascertain which kind we have to deal with, and what cause has produced it. In *A. suffocatoria*, we first of all examine whether the air passages are obstructed, and endeavour to remove the mucous, &c. by introducing the finger into the mouth; and when the child is blue in the face, some blood should be allowed to escape from the navel-string. When by these means the child is not restored to life, other measures to be hereafter described, are to be successively adopted. In *A. apoplectica*, the cord should be immediately divided, and two spoonfuls of blood allowed to escape, by which alone the asphyxia will frequently be remedied. In *A. nervosa* it is especially of importance not to divide the cord, and to endeavour to re-animate the child by stimulants. With respect to the management of the cord in cases of asphyxia, we recommend that in most cases it be left untouched; when loss of blood seems desirable, it should be divided, and when a sufficient quantity has been allowed to flow, it should be tied; in *A. nervosa*, on the contrary, the blood should be squeezed from the cord towards the child. In all other cases, we should leave the child connected with the mother until the placenta has become detached, and in the meantime occupy ourselves with making attempts to excite re-animation. The following is the proper way to proceed. In cases where, owing to the long continuance of labour, the child's brain becomes injured by pressure, and nervous asphyxia is the consequence, it is useful to produce concussion by

repeated slaps upon the buttocks ; but if the asphyxia be of a different species, and the child plethoric, this method of rousing the child must be practised more cautiously and gently, and soon be desisted from altogether if it appears to be useless. The body and limbs of the child should then be rubbed with the hand or with a brush ; and the partial stimulation of the external parts thus produced should be increased by sprinkling the chest with water or wine, dropping these or naphtha on the face and pit of the stomach ; and at the same time, especially in *A. nervosa*, stimulants are to be applied to the nose, the nostrils and throat tickled with a feather, the whole body rubbed with water or brandy, and a clyster of wine and water administered. As soon as possible, however, the child is to be put into a warm bath, and these rubbings, &c., persevered in whilst the child is in it. Some have advised the bath being used before the cord has been divided, but in private practice this might be attended with great difficulty,—*e. g.*, when the cord is short, the woman very restless, when no proper vessel is at hand, &c. The cold bath is inadmissible, except in *A. nervosa*, when sometimes the stimulus of the cold may prove of benefit ; but the use of it must be limited to a plunge, followed by active friction. Neither should the child be continued in the warm bath for any length of time, because the pressure of the water impedes the movement of the chest ; the first breath may thus be easily interrupted, and we therefore recommend that after active friction has been practised in the bath for a minute or two, the child be taken out and tossed to and fro in the air a little while, then put into the bath again, and these methods continued for some time. Another means of re-animating still-born children is insufflation ; this requires great caution, and it is better to do too little than too much ; indeed various opinions prevail as to the propriety of resorting to it at all. No harm will accrue if it be kept in mind that the only object in employing insufflation is to bring atmospheric air into contact with the lungs ; more indeed is not necessary, for air is the natural stimulus to the lungs, and therefore the most powerful ; actual distension of the lungs with air would be not only useless but injurious. Indeed, in many cases, stimulating the larynx by the introduction of atmospheric air is sufficient to excite respiration. To accomplish this purpose the more securely, we first clear away the mucus from the mouth and fauces, which if necessary may be done with a feather, and then blow air into the mouth, the nostrils being open ; if this does not answer, we must close the nostrils, that the air may pass further through the air passage into the lungs. By leaving the nostrils at first unclosed, the mucus which is in the fauces may be expelled through the nose, and the removal of this is of itself of sufficient importance to justify the operation. Several different methods of practising insufflation have been described. The simplest and correct is to apply one's own mouth to that of the child, and then blow in air. The objection to this plan is that the air will have lost much of its oxygen by a former process of respiration ; but it is the only one that can be adopted by midwives, because the use of instruments of any kind requires more knowledge than can be expected from them. When mucus has ceased to escape from the nose, we clear the nostrils with one hand ; and with the thumb of the other hand, which is enlarged in supporting the neck, with the index and a little forefinger, make gentle pressure upon the larynx, by which means the air will be prevented from passing through



the pharynx into the stomach, and be more likely to pass towards the lungs. When air has thus been blown in for some time, and the process repeated after an interval of from five to ten minutes, respiration is to be imitated artificially, by compressing the chest repeatedly with the hand, and leaving the nostrils and larynx free. Many different instruments have been invented for the purpose of inflating the lungs of still-born children, but few of them can be considered free from objection, nor ought they to be used without great care. It holds good as a general rule, that insufflation should never be practised so long as the child makes attempts to respire, nor until the means before recommended have been employed, and respiration has entirely ceased. Oxygen gas has been recommended for insufflation when it can be quickly obtained; this would, however, scarcely ever be the case, and we have too little experience of it to judge of its merits; it is to be feared that it would prove too stimulating to the substance of the lungs in young children, and not only to the lungs but also to the larynx and trachea. Galvanism and electricity have also been advised, and found very efficacious; and since an electro-magnetic apparatus is both cheap and portable, it might with propriety be added to the apparatus of the obstetric practitioner. The employment of the measures here named for producing resuscitation—those being selected which are best suited to each particular case—should be persevered in for some time steadily and systematically; nor ought they to be discontinued until an hour shall have elapsed without the slightest appearance of any signs of life. When signs of re-animation appear,—*e. g.*, when the pale blue colour of the body becomes more inclined to red, or the dusky red disappears; when the flabby limbs become firmer, the head less drooping, the lower jaw raised to the upper; when the pulsation of the heart returns, an irregular stertorous breathing commences, or the child cries; the means employed to produce reanimation must be continued still longer—indeed until the breathing becomes quite regular, although in a less active manner. For a few days it is desirable to use the bath daily, and to pay the greatest attention to the nursing.—[*Note by Translator.*—Drs. Hardy and M'Clintock recommend a gum-elastic male catheter, of the full size, (No. 9 or 10), for inflating the lungs. "The child was placed in a horizontal posture, with the neck considerably extended, and the head bent rather backwards; the catheter was passed a short way into the mouth, and the lips and nostrils were then kept closely compressed, at the same time that the larynx was gently pressed against the spine. Alternately with the insufflation of the lungs, a slight degree of pressure was made on the epigastrium and ribs, with a view to assist expiration. It is of importance, in blowing through the catheter, to do so in the manner of using the blow-pipe, namely, that the efforts should be made by the mouth and soft palate, and not by the chest; and consequently, that the air should come from the mouth, and not from the lungs of the operator."—p. 358. The advantages of this method are thus described:—1. The degree of force with which the air is propelled can be carefully regulated. 2. Its temperature is raised before entering the chest of the infant. 3. In quality it is little, if at all, removed from pure atmospheric air. 4. No injury can possibly be inflicted on the soft parts within the mouth of the child.]—*Translated for the "Record," by E. Copeman, M.D., Norwich, from Busch and Moser's "Handbuch der Geburtshunde, &c."*

**Anæsthesia.\***—(ἀναισθησία, from *a priv.*, and *αἰσθάνομαι*, to feel, interposita, v. euphoniæ gratiâ). Anæsthésia F. Anæsthesia L.—Insensibility; the loss of the sense of feeling.—*Anæsthesia in Midwifery.* The following is a condensed statement of Professor Simpson's report on this important application:—*Early History.* I have already shown that Dioscorides, Pliny, Apuleius, Theodoric, Paré, and others, (Monthly Journal of Medical Science, vol. 1847—48, p. 451) had described, and some of them apparently practised, the induction of anæsthesia previous to operations, both by giving their patients narcotic substances to swallow, and narcotic vapours to inhale.\* While making these researches, I further attempted to ascertain if any writer had proposed to assuage or annul, by the same or other means, the pains attendant upon human parturition, but failed in finding any traces whatever either of practical attempts to abrogate or modify, by true anæsthetic means, the pains of labour, or of theoretical suggestions even as to the very possibility of effecting that desirable result. I believe the history of the induction of anæsthesia in midwifery does not date as far back as the history of anæsthesia in surgery. The first instance occurred in my own practice in Edinburgh, on the 19th of January, 1847, and was one of deformed pelvis, in which I had pre-determined to extract the child by turning, under the effects of inhalation of ether upon the mother, with a view to facilitate that operation. I had anxiously waited for the labour of this patient, for, by the result, I expected much would be decided, as to the effect of ether inhalation in parturition. Would it merely avert and abrogate the sufferings of the mother, without interfering with the uterine contractions? Or, would it arrest simultaneously both the contractions of the uterus, and the pain? As far as turning was concerned, it was a matter of no vital importance whether it stopped the uterine contractions or not. And on this circumstance depended the eligibility of the case for a first trial of ether inhalation. The result was most satisfactory; it at once afforded me evidence of the fact upon which the practice of anæsthesia in midwifery is founded—namely, that though the *physical sufferings* could be annulled by inhalation, yet the *muscular contractions* of the uterus were not necessarily interfered with, or that the labour might go on, although the sensations of pain usually attendant upon it were, for the time, altogether abrogated. This case, with its results and inferences, was communicated to the Obstetric Society at their meeting on the 20th of January. (Monthly Journal, Vol. 1846—47, p. 639). In the subsequent three weeks I had an opportunity of trying ether inhalation in several cases of natural labour and in one forceps case; and, at the next meeting of the Obstetric Society (10th February) I brought the subject under the attention of the members at greater length. In the published reports (Monthly Journal, Vol. 1846—47, p. 795,) the various inferences which then appeared to me to be deducible in regard to it were these: 1. That the inhalation of ether procured more or less perfect immunity from the conscious pain and suffering attendant on labour. 2. That it did not

\* This article was by accident omitted from its proper place; its importance, however, justifies our admitting it here rather than leave it out altogether.

\* Some recent investigations by French savans into Chinese literature have shown that the practice of anæsthesia was known by them at the commencement of the Christian era, and resorted to for surgical purposes.

diminish the strength or regularity of the contractions of the uterus. 3. That it apparently (more especially when combined with ergot), sometimes increased their severity and number. 4. That the contraction of the uterus after delivery seemed perfect when it was administered. 5. That the reflex assistant contractions of the abdominal muscles, &c., were apparently more easily called into action by artificial irritation and pressure on the vagina, &c., when the patient was in an etherized state. 6. That its employment might not only save the mother from pain in the last stage of labour, but might save her also, in some degree, from the occurrences and consequences of the nervous shock attendant upon delivery, and thereby reduce the danger and fatality of childbed; and, 7. Its exhibition did not seem to be injurious to the child. Full details of cases on which these inferences were founded, were, along with additional instances, published in the *Monthly Journal of Medical Science*, March 7. In that paper I made some observations, Whether it would be proper to employ anæsthesia in natural labour? I adduced various reasons physiological and pathological for believing that parturient action of the uterus would go on uninterruptedly, though the influence of the mind and purely cerebral functions were suspended, and that the dangers of the nervous shock would be lessened; I pointed out the necessity of ascertaining, by a cautious observation, what counter indications there might be to such practice;—whether it were ever apt to give a tendency to hæmorrhage or other complications; its influence, if any, on the child; the length of time it might be continued in any case, &c. On the 18th February, the longest time which I had ventured to keep a parturient patient in the anæsthetic state was about half an hour. And many who believed that this state might be induced without danger for a few minutes, doubted whether it could be sustained for any length of time without extreme hazard. During the next two or three weeks, I ascertained the fact, that anæsthetic action could be safely kept up for one, two, three, or more hours. At a meeting of the Obstetric Society, this result and others were adduced, (*Monthly Journal of Medical Science*, 1847-48, p. 214, and additional deductions drawn, viz.—that, 1. The etherization had little or no influence upon the fœtus, none of a deleterious kind,—the fetal heart increasing only a few beats, if at all, when the mother was kept long and fully etherized, either during pregnancy or labour. 2. The mother, during labour, may be kept etherized, if required, for one, two, three, or more hours. Dr. Simpson described two cases, in one of which the mother was about six, and in the other about four, hours etherized before the children were born. In both cases, the duration of the intervals and of the pains before and during etherization was noted (as in the experiments which Dr. Simpson had published on galvanism), and the etherization seemed to have no effect either on their frequency or strength. But, 3. In two or three cases, Dr. Simpson had seen a very deep state of etherization modify apparently the full strength of uterine contractions, but they recurred immediately in full force when the patient was allowed to fall back into a state of slighter etherization. 4. Dr. Simpson had hitherto seen no traceable injury to either mother or child from its employment, but the reverse. 5. The inhaler he used was either a concave sponge saturated interiorly with ether and held over the face, or a simple portable flask without valves. The first case of labour in which I employed

artificial anaesthesia was on the 19th January, 1847. This case and its results were stated on the following day, to my class in the University, and immediately became known to the profession. On the 18th February, Dr. Murphy stated to the Westminster Medical Society that he had employed it in a case of turning. On March 27th a case of ether in natural labour, by Mr. Lloyd. Dr. Protheroe Smith delivered a patient under a state of anaesthesia, on the 28th of March, and in the *Lancet* for 1st May he published a paper, "On the employment of Ether by Inhalation in Obstetric Practice." He afterwards published several additional cases. Mr. Lansdowne, of Bristol, published various cases in which the practice was successfully employed—his first case on the 8th April. In Ireland, the first case delivered in a state of artificial anaesthesia was on the 28th November, 1847, under the care of Dr. Tyler of Dublin. It was an instrumental labour. In France, the practice was early tried. In a week after the first case in Edinburgh, Fournier Deschamps delivered a patient by the forceps when she was in a state of anaesthesia, on the 27th of January. On the 8th February, Prof. P. Dubois exhibited ether in a case of forceps operation at the Hôpital de la Maternité of Paris, and up to the 23rd February had used it in four other deliveries. He early brought the question in an interesting and able form before the French Academy of Medicine, and various reports of this important oral communication appeared in different journals. Professor Dubois' conclusions were as follows:—1. The inhalation of ether can annul the pain of obstetrical operations. 2. It can suspend the physiological pains of labour. 3. It destroys neither the uterine contractions, nor the contractions of the abdominal muscles. 4. It diminishes the natural resistance of the perineum. 5. It does not appear to act unfavourably on the health or life of the infant. Professors Villeneuve, of Marseilles, and Stoltz of Strasbourg, published some cases and observations. In Germany the first case of anæsthetic midwifery occurred on the 24th February, 1847, under the care of Prof. Martin of Jena. The ether was administered during the separating and extracting an adherent placenta. Professor Siebold read a paper before the Royal Scientific Association of Goettingen, May 8th. He had employed ether in several cases of natural and instrumental labour. On the 3rd June, Prof. Grenser of Leipzig etherised a patient for a forceps operation, and afterwards resorted to it in several other natural and instrumental cases. In America,—the country to which we are indebted for the first knowledge of the anæsthetic effects of sulphuric ether—the same agent was not employed in midwifery till the reports of its use had re-crossed the Atlantic. Dr. Channing, of Harvard University, was the first to employ it in labour, in two forceps cases; the first on May 5, the other May 15, 1847. Drs. Clark, Putnam, and other American practitioners, have latterly published results of their experience in anæsthetic midwifery. In November, 1847, a new impulse was given to the practice of anaesthesia in midwifery, by the introduction of chloroform as a substitute for sulphuric ether. The ether required large quantities in order to keep up its action; and hence it was objectionable from its bulk, and inconvenience of carriage. These and other difficulties were found not to appertain to the use of chloroform, and many, in consequence, adopted it in midwifery, who had previously rejected the employment of sulphuric ether. The first case of labour in which I employed

chloroform occurred on the 8th of November. On the 1st December, I reported to the Edinburgh Medico-Chirurgical Society a series of cases of its effects and use in natural and operative labours. In the London weekly journals, since that period, Dr. Protheroe Smith, Dr. Murphy, Dr. Rigby, Mr. Lansdowne, Mr. Brown, Dr. Bennett, Mr. Phillips, and others, have published cases and reports upon the subject. *Results of Practice.*—Since January, 1847, I have delivered about 150 patients under a state of anæsthesia. The results to the children and mothers as follows:—*Children.* In the 150 cases, all were born alive except one. In this instance, the infant was expelled in a putrid state, between the seventh and eighth month of utero-gestation. It had not been felt to move, nor had I been able to hear the fetal heart with the stethoscope for two or three weeks previously. The mother had, before, borne several premature dead children. Though the infant was small, the suffering attending its expulsion offered to be excessive, and, to relieve the mother of this unnecessary agony, I placed her under the influence of chloroform. During the few weeks of my attendance after delivery upon these 150 cases, only one of the children died, under the symptoms of cyanosis. Nor am I aware that any of them has suffered, up to this time, from “cerebral effusions,” “convulsions,” “hydrocephalus,” or any other of the affections which have been prophesied as certain to such infants born in labours rendered painless by art. Perhaps I may add, that none of the children have shown any symptoms of what has been calmly averred, in more than one publication in London, as a probable result of anæsthesia, viz., Idiocy.—“Dixerut insanum qui te, totidem audiet. (How can we “know or ascertain the possible consequences of the use of such an agent on the brain of the child? And how can we calculate what may be the ultimate consequences of its action in reference to the development of the mental faculties?”—*Dr. Malan, in Lancet for April 29, 1848.* “It is admitted by all, that the pulsations of the fetal heart are *greatly increased* during inhalation,—indeed, to such an extent has this been noticed, that in some instances the pulsations could not be counted, so much were they accelerated. Are not effusions to be feared from this? Are not convulsions after birth likely to ensue? And may not that occur which would make the most heartless mother shudder at the bare possibility of herself, by her want of courage, being instrumental in producing? May not *Idiocy* supervene? Of this we have as yet no experience, nor shall we have, perhaps, for years; but when *one* such case occurs, will there then be found any one who will afterwards be persuaded to submit herself to etherization during pregnancy?” *Mr. Gream in London Medical Gazette for 7th September, 1848.* It is perhaps superfluous to add, that the premises of the preceding paragraph are as gratuitous as its conclusions; and that the pulsations of the fetal heart are little, if at all, increased in rapidity when the mother is anæsthetized. “The action of the child’s heart (says Professor Siebold) was found to continue quite unaltered, not the slightest change in its frequency and regularity being detected.”—*Siebold on the Employment of Ethereal Inhalations in Midwifery, in the Medical Gazette for 11th June, 1847.*) *Mothers.* Among the 150 mothers, the immediate effect of anæsthesia has been the alleviation or abolition of sufferings attendant upon the latter stages of labour. And, if the object of the medical practitioner is twofold, as it has always, till of late, been declared

to be, viz., "the alleviation of suffering and preservation of human life," then it is our duty as well as privilege to use all legitimate means to mitigate and remove the physical sufferings of the mother during parturition. The degree of these sufferings is assuredly such as to call for mitigation. In proof of their severity, I might cite the unprejudiced testimony of various obstetric authors: at present I shall content myself with one. Professor Meigs of Philadelphia—a declared opponent of anæsthesia in labour—when speaking of the sufferings in parturition, admits their intensity. "*What* (says he) do you call the pain of parturition? There is no name for it but *Agony*; (*Females and their Diseases*, p. 49. I leave the italics the same as in the original,) and he elsewhere speaks of the pains in the last stage "as absolutely indescribable, and comparable to no other pains." (*Philadelphia Practice of Midwifery*, p. 153.) Now, if it be the duty of the physician to relieve the pains of colic, pleurodyny, headache, neuralgia, rheumatism, &c., &c., it is his duty to relieve pains so severe as to be "absolutely indescribable, and comparable to no other pains." There is not one code of humanity for one class of pains, and a different code for another. From November last to the present time, none of the patients, with one exception, has been aware of these last "absolutely indescribable" pains, the state of artificial anæsthesia having always been induced before their supervention. I have kept up this state for a period varying from a few minutes to six or more hours before delivery. In the exceptional case referred to, the patient's sufferings were greatly mitigated; but the state of anæsthesia was not, as usual, complete, the patient having been unexpectedly taken in labour when not in her own house, and the attendant anxiety and confusion of herself and attendants being such as totally to preclude the requisite degree of quietude. When employing ether, I repeatedly saw cases in which the patients were not completely anæsthetized,—where, in other words, they were not entirely asleep, but aware of the presence of the uterine contractions, and sometimes experienced from them sensations in some degree painful, but of a mitigated and blunted character. Besides thus alleviating and abolishing the sufferings of the mother, the practice carries along with it other advantages. Patients have spontaneously told me, that the prospect of being enabled to pass through parturition with the assistance of anæsthetic agents, and without their usual painful agonies, destroyed, in a great measure, that state of anxiety and dread which in former pregnancies had, for weeks and months previously, haunted them. If we can thus add to the happiness of our patients, by imparting feelings of safety under the severest trials to which nature exposes them, we follow out, in its truest sense, that which Dr. Meigs correctly describes the office of a physician to be,—namely, "a great mission of benevolence and utility." But anæsthesia not only saves the mother from the endurance of unnecessary mental anxiety and physical agony; it saves her also from some of the dangers of parturition,—by husbanding her strength and warding off the effects of that exhaustion and nervous depression which the pains and shock of delivery tend to produce. In most cases, after delivery, on waking from sleep, they have expressed surprise at their feelings of strength and well-being; many, who have borne children previously, have declared the great difference between their condition after being delivered under anæsthetics, without pain and suffering,

and their state of prostration after former labours, when subjected to the endurance of all the usual "agonies" of parturition. Nor does the benefit end here. By annulling the pains and their direct and primary depressing effects upon the constitution, we ward off, to a more or less extent, the dangers of secondary vascular excitements which are always apt to follow. We increase the chances of a speedy and healthy convalescence. Both patients and practitioners have had occasion to observe, that the period of convalescence has been evidently shortened by the previous adoption of anæsthesia. Such has been my own experience. My strong conviction is, that I have seen more rapid recoveries than formerly, and fewer puerperal complications. One patient, however, had a short attack of peritonitis, requiring leeches, &c. It was her third accouchement and her first living child; after two former deliveries she had required to be bled, and treated for inflammatory attacks. At her first labour she suffered from puerperal convulsions. In two of my patients convalescence was delayed, in one, by an attack of intestinal irritation; and in the other, by jaundice, which supervened two or three weeks subsequently to delivery. In December and January, 1847, puerperal fever swept fatally over Edinburgh and other parts of Scotland. During its prevalence, two of my patients were seized and died. But the anæsthesia in these cases had nothing to do with this result. Some of my professional brethren, not using ether or chloroform, were much more unfortunate than I was. In one district, the medical attendants informed me that, at that time, above twenty mothers were attacked and died, and in none was ether or chloroform used; while several who demanded chloroform escaped. The first of the two cases which I met with, was after a second labour. The patient's first labour was tedious and prolonged; at last symptoms supervened which demanded the delivery by forceps. In her second delivery, the labour was shorter; the second stage lasted only twenty minutes—during it she was completely anæsthetized. For fifty hours she progressed most favourably: after seeing her at that time with a pulse at eighty, and otherwise well, I was suddenly summoned, in consequence of severe pain in the uterine region after some muscular exertion. Rigors, rapidity of the pulse, tympanitis, &c., supervened, and she speedily sank with symptoms of puerperal peritonitis. The second case was in a primipara. The labour tedious, pains severe, and the patient was anæsthetized four or five hours before delivery. For some days she went on prosperously, until unhappily excited by discovering intemperate habits on the part of the nurse. A fit of convulsions (a disease to which, in earlier life, she had been long subject) immediately supervened, and recurred several times. Fatal febrile symptoms set in, with tympanitis and excessive diarrhœa. I may add that, in the 150 cases occurred, I have also had charge of 20 or 30 other cases in which anæsthesia was not employed, from the rapidity and facility of delivery, and from the patient being too late to send for assistance, from an aversion to the use of anæsthetics, more especially when ether first began to be used during last year, or from other causes. (Since November last I have used chloroform in all cases of labour, where I have been called in time, except two.) one of the children in these cases was still-born, and a second died two or three days after delivery. Two of the mothers suffered from crural phlebitis; a third had a severe attack of puerperal fever, but recovered. Two others died; one of them of puerperal convulsions and coma, which supervened four-

teen days after delivery (see details of it in *Monthly Journal* for 1847, p. 213). In the other case, the patient had suffered in her previous labours, came to Edinburgh to be confined, with chloroform. But the labour proved unusually rapid—she was delivered before I arrived. Her recovery went on for two weeks, when dyspnoea supervened. Professor Miller saw her in my absence, and suspected some affection of the heart. When we visited her afterwards, the symptoms were acute endocarditis. She was submitted to the usual treatment, and in four or five days felt again so well as to insist with us upon being allowed to rise, which was forbidden. In a few hours afterwards, another fit of dyspnoea suddenly supervened, and before Mr. Miller reached the patient's house, she was dead. We did not procure an autopsy. If she had used chloroform, as was her intention, many of the objectors would have attributed the fatal issue to its employment. In order to show the caution necessary in reasoning on cases of death, apparently from chloroform during surgical operations, I may add that, since November last, scarcely an operation has been performed in Edinburgh without anæsthesia, except where the throat or mouth was the seat of incisions, or the operation slight. Amid the numerous patients thus operated on in public and private practice, under the use of chloroform, no accident has happened; except one of temporary fainting, a few minutes after recovery from anæsthesia. On the other hand, since November last, patients have been operated on in this city without chloroform, two have died on the table. One for a hernia, strangulated about fifteen hours; when the skin was divided, the patient complained of faintness, vomited, and died with the operation unfinished. This occurred on the 8th of November, two or three days after the anæsthetic effects of chloroform were discovered. The second case had an abscess in the neck, requiring a simple puncture for its evacuation. He died without hæmorrhage, from admission of air, or other cause, a minute or two after the puncture was made. If chloroform had been used in these cases, would it not have been blamed? Twelve or fourteen months ago, Prof. Syme was performing amputation of the thigh, on a patient on whom there was no sign of re-action, and who was not etherized. "Upon the incisions being made, relaxation of the sphincters took place, the contents of the rectum and bladder were voided, and an effort at vomiting seemed the prelude of immediate dissolution. Before tying (says he) the arteries, I waited to ascertain whether the condition of the patient depended upon syncope or death. My colleague Dr. Duncan, by alternate pressure and relaxation of the chest, effected artificial respiration for some time without any sign of returning life; but by and by the actions of the system were gradually restored, and maintained through the use of stimulants." (See *Monthly Journal of Med. Sc.*, Vol. 1847-48, p. 76.) Such symptoms, coming on in an anæsthetized patient, might have been mistaken for the effects of the anæsthesia. Some time ago, Dr. John Argyll Robertson was called out of Edinburgh, to perform the operation for strangulated hernia. After having shaved the groin, his patient complained of sickness and faintness, and died before any incisions were made. Dr. Girdwood, of Falkirk, came to Edinburgh to see the practice of etherization, in order to apply it in a case of amputation. The day was fixed; but some hours previously, sudden apoplexy came on, and the patient died. In addition to the 150 cases of artificial anæ-



thetia in my own practice, to which the preceding remarks apply, I have witnessed a considerable number in which anæsthetic agents were employed in Consultation and Hospital practice; and I have frequently had recourse to their assistance in various obstetric operations that I have been called upon to perform, as separation and removal of the placenta, in turning, in one craniotomy case, and in several delivered by the long or short forceps. In one case of placenta prævia, the mother had lost much blood, her lips pale, and pulse very weak. On administering chloroform the circulation and pulse rallied—I separated the placenta—no bleeding recurred. The mother made an excellent recovery. In all these varieties, the previous superinduction of anæsthesia appeared to me to be of the most undoubted benefit. Besides freeing the mother from additional corporeal suffering and mental anxiety attendant upon operative delivery, anæsthesia enables the practitioner to apply any operative interference necessary with ease and facility to himself, and with more safety and success to his patient. When anæsthesia is rendered adequately deep, it renders the patient quiet and unresisting; it prevents those sudden shrinkings and changes of position which the boldest and firmest cannot sometimes abstain from when mind and body have been worn out, as in most cases, by a previous protracted endurance of exhausting but ineffectual labour;—the introduction of the hand itself to guide our instruments, is greatly facilitated by the passiveness and apathetic state, and by that relaxation which deep anæsthesia almost always induces; and, lastly, this relaxation renders the process of the artificial extraction of the infant easy for the practitioner, less dangerous for the child, and more safe for the mother. Besides, in midwifery as in surgery, anæsthesia is not limited to the mere annulment of pain on the part of the patient, and rendering the operation easy to the practitioner, but adds to the safety of instrumental or artificial interference. For, in modifying and obliterating the condition of pain, the “nervous shock” is saved to the already tried and shattered constitution of the mother; and thus, an escape is gained from those states of immediate vascular and nervous depression, and subsequent febrile and inflammatory re-actions, that are apt to follow directly or indirectly in its train. *Mode of Exhibiting Chloroform; Dose, &c.*—When operative interference is adopted, the anæsthetic state must be adequately deep, that the patient must be quite passive and apathetic. In fact, when induced for operative purposes in midwifery, the state should be as profound as when it is induced for operative surgery. But, in common cases of parturition, the anæsthetic agent, whether chloroform or ether, does not require to be given in such large doses as in surgical practice. In obstetric practice, the rules in exhibiting the chloroform are those which I stated when first writing on the subject for the *Monthly Journal*:—“After the first full dose, a few inhalations, before or with each returning uterine contraction, are generally sufficient. The state should be made more deep as the head is passing the perineum and vulva.” I have stated these rules at greater length. (See No. for April, p. 762.) Occasionally I have at first, in the early stages of labour, given small doses only, so as to obliterate the sensations of pain, without altogether abrogating the state of consciousness. In many, this degree, with the results stated, viz. the loss, in a great measure, of pain, without entire loss of consciousness, can be readily induced, and answers excellently

well; but, as a general rule, it has appeared to me objectionable. For not unfrequently, small doses, such as produce this condition, are accompanied with excitement and talking; and sometimes patients have complained of this renewal of small doses with each pain being accompanied with ringing in the ears, flashes of light, and other disagreeable sensations accompanying, in some persons, the primary effects of the inhalation. Besides, we are never sure that we are really saving the patient to the full extent by these means. If, on the other hand, she happen to be thrown at once into deep anæsthesia, the chances of such inconveniences are avoided. Often, when the state is made deep from the first, the uterine contractions are arrested, but speedily return. To effect this, we take care that as soon as the patient is asleep, (and in natural labour we seldom or never require to push the inhalation so far as to affect respiration, and produce snoring, as in surgery,) the chloroform should be withdrawn, and not re-applied till the movements of the patient, of the state of the uterus, as felt through the abdominal walls, indicate returning contraction. A few inhalations given then, and repeated with each returning contraction, keep the patient unconscious; and this condition may be maintained for hours, by administering chloroform with each pain, withdrawing it entirely during each interval. The practice is not to be expected to come upon medical men by intuition; for, like all other practices, care and experience is necessary to apply it. The *two* main difficulties are these: to keep the patient unconscious of pain, and yet not so anæsthetized as to have the uterine action interrupted. For too deep a state interferes with the force and frequency of the uterine contractions; while a lesser degree leaves these contractions unaffected; and a still smaller dose often increases them, the effects upon the uterus being similar to opium in different doses. But the influence of the agent passes off in a few minutes, differing from the more permanent influence of a drug when swallowed: if, at any time, the effect is too deep, and uterine action impeded, all that is necessary is to abstain entirely from exhibiting till the parturient contractions come back to their proper strength and frequency; then to be sustained as before, by giving the vapour with every pain, in smaller doses, or for a shorter time during each pain, than previously practised. Vapours, given in large doses, have less power on the uterus in the last than in the first part of labour. As the pains become more agonizing on the head distending the perineum, and passing through the vulva, the anæsthetic state requires to be more deep and complete than in the earlier stages: in most, this may be done without impeding delivery. In many, this latter part of parturition seems accelerated by anæsthesia; for the relaxation of the muscular structures of the perineum and vaginal orifice resulting from it more than compensates for any diminution of uterine action. If it prove otherwise, and the depth of the anæsthetic state interferes with contractions, the simple remedy is a diminution in the state, so as to allow of a return of the expulsive efforts. The degree of anæsthesia which different patients are capable of bearing without the contractions being impeded differ greatly in different persons. In some, a very deep state will leave the uterus almost or altogether unaffected; in others, its action is interrupted by a slight degree of the anæsthetic state. It is this variability which forms the difficulty to those commencing the use of chloroform in obstetric practice. Experience

and care will soon enable any attentive observer to overcome this obstacle, and adapt the agent to the capabilities of each patient. I have never seen an instance, but conceive it possible, that in some rare cases and idiosyncracies, the action of ether or chloroform should, even in such small doses as merely produce unconsciousness to pain, interfere, in the first stage of labour too much with the action of the uterus, and require to be given up till labour be more advanced. This would be no reason for not employing it in other persons in whom it had not such an influence, any more than because opium does not act as an hypnotic on particular patients, it should not be given with that indication to other patients with the view of inducing sleep. During the sleep which chloroform induces in labour, the patient lies passive between the pains, but moves more or less, and sometimes moans, as contraction begins to return. In the last stage she generally—with every contraction—makes the usual violent bearing-down efforts, marked in the expressions of her face. The action of the uterus and assistant muscles goes on, yet she remains unconscious. The strictest quiet should always be enforced around the patient, for noises soon after the chloroform is commenced will sometimes excite and make her talk; if this happen, a deeper dose will be necessary. One or two in London have averred, over and over again, in our journals, and in pamphlets intended for non-medical readers, that patients under the influence of chloroform must be liable to talk and act grossly and obscenely. This objection to the practice has been repeated by those who have propounded it, in a way forming, unconsciously on their own part, the severest self-inflicted censure upon the sensuality of their own thoughts. An impure mind may easily fancy impurities where none exist; but he is not on that account entitled to imagine that his own lewd thoughts are typified in the actions of his patients. In answer to the objection, I have to observe that I never witnessed any indecency, in word or action, in any patient under the use of chloroform; and the evidence of all my obstetric brethren, of whom I have inquired on the subject here, is to the same effect. In a paper on temporary delirium in labour, Dr. Montgomery years ago described more marked instances of this description, arising from “extreme distress and pain” to which the mother was subjected in the dilatation of the os uteri, &c., during parturition, than were ever seen to arise from the means used to abate and abrogate that “extreme distress and pain.” In administering chloroform, I use the handkerchief, as the simplest and best apparatus. Sometimes, when the case is tedious, I have it folded into the form of a cup or cone. The chloroform is poured into the bottom, the open end of it held over the nose and mouth when the action is required; when its application is suspended, by closing the open end the loss of the vapour is prevented. But a handkerchief merely folded together answers quite well, and in the intervals compressed in the hand, so as to prevent the escape of the chloroform. In *first* throwing the patient over into sleep, (the point which requires the most management) a handkerchief presenting a large surface is much more serviceable than folded into a cup shape, for the patient, when first coming under the influence, is apt to move her head from side to side: she can be more easily followed by using a simple handkerchief than by trying to keep any apparatus to her mouth or face. The quantity used varies according to the duration of the labour, and the susceptibility of the patient. When the handkerchief is

used, about an ounce an hour is necessary, a small quantity poured upon it from time to time. A less dose will suffice in some, and in others more. In one case, in a first labour, in two hours I expended nearly six ounces, large doses being necessary to keep her sufficiently unconscious. The first quantity I pour on usually amounts to three or four drachms; but I judge by the *effects*, not by the dose, and I pour on an additional quantity if it be required. In holding the handkerchief, I take care that plenty of air is admitted, and seldom or never put it in contact with the face. At first, it is better to hold it at a distance, to prevent any irritation or coughing; then gradually approach it. It is to be remembered that the vapour is four times the specific gravity of atmospheric air; and if the patient is lying on her side, the handkerchief or pillow can be arranged so as to keep a supply of this vapour opposite the mouth and nostrils. I have always managed the handkerchief myself in the first instance, and till the patient was asleep. Afterwards, I have trusted it to the husband or nurse, teaching them to apply it near when the pains supervened, and folding up the handkerchief to preserve the chloroform during the intervals. When exhibiting chloroform in the way described, I have been struck by the circumstance that its use is rarely followed by sickness or vomiting. I do not remember having seen vomiting follow its exhibition in more than four or five cases, and two of these were instances in which I had to apply the forceps, where the patients were placed for the operation in a state as deep as that used in surgery. [If inhaled immediately after taking food, vomiting is apt to occur—not otherwise.—ED.] I have repeatedly seen it arrest sickness and vomiting accompanying the first stage of labour. I have usually begun the chloroform when the os was well dilated, or towards the termination of the first and the commencement of the second stage of labour. But when the pains were severe I have commenced it earlier, when the os was little dilated. There is, I believe, no limit as to the date of the labour at which we may give it. The following results are confirmative of the practice of Anæsthesia in labour:—

Drs. Duncan and Norris give	...	...	...	...	95 Cases.
Dr. Keith	...	...	...	...	24 Cases.
Dr. Moir	...	...	...	...	Many Cases.
Dr. Malcolm	...	...	...	...	80 Cases.
Dr. Thomson	...	...	...	...	Many Cases.
Mr. Carmichael	...	...	...	...	26 Cases.
Dr. Brown	...	...	...	...	Many Cases.
Dr. Purdie	...	...	...	...	17 Cases.
Dr. Finlay	...	...	...	...	Considerable number.
Dr. Cumming	...	...	...	...	35 Cases.

The above list are practitioners in or near Edinburgh, to which might be added Drs. Bailey, Zeigler, Weir, Young, Menzies, Gilchrist, and Campbell. From practitioners at a distance:—

Dr. Grigor, of Nairne	...	...	...	...	24 Cases.
Dr. Dyce, of Aberdeen	...	...	...	...	11 Cases.
Dr. Harvey, ditto	...	...	...	...	4 Cases.
Dr. Gilchrist, Woodside	...	...	...	...	Numerous.
Dr. Pirrie	...	...	...	...	14 Cases.

Mr. Lawrence, Montrose ... ..	Some.
Dr. Steele, Montrose ... ..	6 Cases.
Dr. Paton, Dundee ... ..	50 Cases.
Dr. Anderson, Glasgow ... ..	Always uses it.
Mr. Douglas, Isle of Man ... ..	Frequently.
Mr. Ceeley, Aylesbury ... ..	Numerous.
Mr. Stuttard, Leicester ... ..	30 Cases.
Dr. Protheroe Smith, London ... ..	125 Cases.
Dr. Rigby, London ... ..	Uses frequently.
Mr. Lansdowne, Bristol... ..	71 Cases.
Dr. Haartman, Westminster ... ..	25 Cases.
Dr. A. Tyler, Dublin ... ..	Frequently.
Mr. Shackleton, Dublin ... ..	40 Cases.
Prof. Martin, Jena ... ..	10 Cases.
Dr. Kiwisch, Wurzburg ... ..	Numerous.
Dr. Arneth, Vienna ... ..	Several.

All of whom speak in the highest terms of it as an application, and complain only of the prejudiced arguments used against it. The London physicians have, on several occasions, specially distinguished themselves by their determined and prejudiced opposition to all innovations in practice not originating among themselves. In the whole Pharmacopœia, there is no one remedy which, at the present day, is acknowledged to be of greater value, or to have saved more human lives, than cinchona, and its preparations. In the seventeenth century, the proper time and manner of using the cinchona bark, for the cure of the then prevalent intermittent fevers of England, was made out by Robert Talbor, a medical practitioner, in Essex. When Talbor subsequently removed to London, and began to use with success the new remedy in the cure of the common agues of the metropolis, he found that, as he gained the favour of the world, he lost that of the physicians of London; and apparently their persecution of him became such that the king at last interfered, and in the year 1678, King Charles II. sent a royal mandate to the College of Physicians, commanding them not to give Talbor "molestation or disturbance in his practice." Among the list of London Physicians averse to the new practice of curing ague by cinchona bark, De Bergen mentions the illustrious names of Sydenham, Harvey, &c. In 1698, a Dutch Physician, Dr. Groenvelt, published a work entitled, "*De tuto cantharidis in medicina uso interno.*" A few years previously, viz. in 1693, when Groenvelt practised in London, the President of the College of Physicians imprisoned him in Newgate for daring to recommend and use the new remedy whose virtues he had discovered. Six or seven years after vaccination began to be generally used throughout England, Dr. Moseley, a member of the London College of Physicians, suggested to his College the propriety of putting down "the beastly new disease," as it was termed, of cow-pox; and in 1805, he boasted that the middle and inferior classes of London had then "renounced the delusion." In the last number of a respectable London medical journal, a London medical practitioner questions whether the practice of relieving women, by anæsthetics, from the pains and agonies of parturition, should not "be considered criminal according to law!" See *London Medical Gazette* for September 8, p. 424. To this list we

add a few cases of our own, which might have been more numerous, but that we use it in operative midwifery, or in cases of natural labour, where the patient makes it an object of particular request. The preceding evidence, in relation to anæsthesia in midwifery in this and other countries might be very easily increased by inquiry, and by an appeal to the experience of the accoucheurs here and elsewhere that have employed it. But as it stands—and spontaneous as it is in most cases—is sufficient to show both the great extent to which the new practice has already been adopted, and the success that has attended upon it. Every innovation in medicine which like the present implies a change in existing doctrines, has been, for a length of time after its introduction, stoutly resisted. The history of the first introduction of the three greatest improvements in practical surgery, midwifery, and medicine—viz. ligature of arteries, induction of premature labour, and of vaccination, afford but too strong proof; and we have many minor instances of the enmity to change, in the opposition to which the first employment of antimony, ipecachuana, cinchona bark, and other medicines encountered. I believe that I am correct in stating, that no innovation, embodying so very direct a deviation from the former routine of practice as anæsthesia in midwifery implies, ever, in the short period, made such progress as it has done. However, it has called forth also abundance of published and unpublished opposition and objection. No small share of the resistance has taken the form of personal or professional abuse of me as the introducer. That I willingly pass over, as it was nothing more nor less than I was entitled to under the circumstances. But some objections of a more palpable nature have been urged against the practice; I will very briefly allude to, and answer the more prominent. *Alleged Difficulties of Anæsthesia.*—I have stated the circumstances which require to be attended to in the exhibition of chloroform. I have been occasionally told that it was impossible to produce the anæsthetic effect of this agent in some. I never yet met with a single instance in which a person was proof against its full influence. It has been sometimes averred, that on attempting to use chloroform, jactitation, incoherent talking and delirium, spasms, &c., &c., have supervened *instead* of quiet anæsthesia. These symptoms do occasionally come on in the *first* or exciting stage, more especially if strict quietude is not enjoined; and though they terrify the beginner, they are in reality no more serious in their effects than symptoms sometimes seen in hysteria. They are an evidence of one of two things; either that the vapour is given too slowly, or in too small quantity,—in an exciting, instead of a soporific dose: the simple remedy, as every one properly experienced knows, is at once to increase the dose in order to pass the patient as speedily as possible into the full narcotic stage. Chloroform, it is alleged, sometimes gives rise to coughing, and pulmonary irritation. Certainly not so, if of good quality, and its vapour is not at first approached in too strong and concentrated a form to the face of the patient. After some experience, it will be found that it can be given so as seldom or never to induce coughing. Some time ago, a physician, in the south of England, wrote me that he and his townsmen had found it too irritant a substance to breathe, and that he had seen it produce cough, bronchitis, phthisis, &c. The answer was simple; it never produced such effects in Edinburgh practice. And I believe that the explanation was equally simple; he and his townsmen had experi-

mented with an impure article. A few days ago, one of the druggists in Edinburgh showed Dr. Christison, Dr. Douglas Maclagan, and myself, a bottle of chloroform of high specific gravity, viz., 1490, just received from a house in London. It was impossible to breathe it without great irritation in the throat and chest. It emitted fumes that reddened litmus paper; which proved to be muriatic acid. Is it wonderful that bronchitis, coughs, and more serious disasters, should have followed the inhalation of such a dangerous article? Dr. Letheby has shown that some kinds of chloroform in the market, besides muriatic acid, are mixed with aldehyde, hydrochloric ether, hypochlorous acid, &c.—See *Medical Gazette* for June 16, 1848, p. 1038. The presence of some of these deleterious agents has been supposed to be an inevitable and speedy effect of the spontaneous decomposition of very pure chloroform. But I find that the article, manufactured by Duncan, Flockhart, and Co., of this city, has undergone no change, though long exposed to the sun. Messrs. Smith have also shown me the same, in regard to their chloroform. I have reason to know, that the dangerous article alluded to in the text as containing a quantity of muriatic acid, has been extensively offered to the profession, two or three shillings per pound cheaper than is charged for the pure chloroform manufactured by other houses; and, probably, its cheapness has led to its extensive use. The following is the formula by Messrs. Duncan, Flockhart, and Co of Edinburgh, whose article I have always found of the most superior quality:—4 pounds of chloride of lime, and 12 pounds of water, are first well mixed together, and then 12 ounces of spirit added. Heat is then applied to the still (which ought not to be more than a third full), but as soon as the upper part of the still becomes warm, the heat is withdrawn, and the action allowed to go on of itself. In a short time the distillation commences, and whenever it begins to go on slowly the heat is again applied. The fluid which passes over separates into two layers, the lower of which is chloroform. This, after having been separated from the weak spirit forming the upper layer, is mixed with half its measure of strong sulphuric acid, added gradually. The mixture, when cool, is poured into a leaden retort, and distilled from as much carbonate of baryta by weight, as there is of sulphuric acid by measure. The product should stand over quicklime for a day or two, and repeatedly shaken, and then redistilled from the lime. The specific gravity of the resulting chloroform is generally 14.96 or 14.97. *Objections to Anæsthesia.*—Objections, religious, moral, and medical, have been zealously brought against the practice of anæsthesia. Elsewhere, see also Dr. Protheroe Smith's late pamphlet entitled, "Scriptural Authority for the Mitigation of the Pains of Labour," I have attempted to answer the supposed religious objections; and I have shewn that the disputed word "sorrow," *etzeb* ("in sorrow shalt thou bring forth children,") does not, in the original Hebrew, really signify the sensations of pain, but the efforts and contractions connected with childbirth. Besides, if this were not the fact, and that it was the duty of man to give effect to the curse, instead of struggling to ameliorate and resist its penalties and influences, then the whole art of physic should require to be abandoned, for, man was doomed to die; and yet is not the great leading aim and object of the physician a continuous attempt to preserve life? All forms of obstetric assistance would require also to be rejected, for the whole art and science of midwifery is one

effort to abate and ameliorate the effects of the curse; and to attain that object imperfectly, as heretofore, by venesection, baths, by counter pressure to the back, &c., is as sinful as to attain it more perfectly now by anæsthetics, inasmuch as the principle of interference is not altered by the degree of relief given; "for whosoever shall keep the whole law, and yet offend in one point is guilty of all." In short, if there is any evidence of feelings of impiety and irreligion in the whole question, it is on the side of those who suppose pain is permanently ordained in the primal curse as an accompaniment of parturition; and yet that by anæsthetics, the creature has discovered a power by which he can alter and subvert an immutable decree of the Creator. The principal moral "objection" is that it is "unnatural." "Parturition," is a "natural function," the pain a "physiological pain" (Dr. Meigs), and it is argued that it is impossible "to intermeddle with a natural function;" and to use anæsthetics is "unnecessary interference with the process of healthy labour."—(Dr. Ashwell). The above is, perhaps, the most general and approved of all the objections urged at this moment against anæsthesia. But it certainly is untenable; for, if it were urged against any of our similar interferences with the functions of the body, (every one of which is as "providentially arranged" as the function of parturition), then the present state of society would require to be altogether changed. The fact is, almost all the habits of civilized life are as "unnatural," and as direct interferences with our various "providentially arranged" functions, as the exhibition of anæsthetics. Progression upon two extremities is a "natural process;" yet we "unnaturally" assist by riding on horseback and in carriages, &c. The "process" of walking is apt to produce injury to the uncovered foot of man, and we "unnaturally" use boots and shoes, and add to the protecting power of the cutaneous and other structures of the sole. Mastication and digestion are "natural processes;" but we daily attempt to aid by the arts of cookery and dietetics; and so on. To annul pain by anæsthetics is, argues Dr. Meigs, "a questionable attempt to abrogate one of the general conditions of man." Riding and railway travelling abrogate one of the general conditions of man (progression), and are constantly leading to accidents. Should we never travel therefore except on foot? Disease and death itself form one of the most "general conditions of man,"—and medicine is a "questionable attempt to abrogate them." Should medicine therefore be abandoned? An eminent London divine urges the following against anæsthesia; and I notice it because it is an objection which I have often heard. He writes:—"the question with me is not alleviation of pain, but destruction of consciousness. I should hesitate greatly to destroy consciousness." Now, our consciousness is destroyed in natural sleep as much as in the anæsthetic sleep. I have little doubt that the distinguished writer has many a day, perhaps during almost every day, voluntarily destroyed his own consciousness in sleep, for an hour or two longer than the necessities of his system required. Putting these together, he has voluntarily surrendered up his mental consciousness for periods that, if added together, would count up perhaps years. He has done so too, for the reprehensible indulgence of indolence; yet he insists upon his fellow creatures not surrendering up *their* consciousness for a short time on extraordinary occasions, when the object is the far more legitimate one of the avoidance of physical pains, and securing



life and health by saving the system from the endurance of pain. If we may sleep, and thus indulge in the destruction of consciousness to cure corporeal fatigue, surely we may do the same to cure corporeal agony. Dr. Merriman opposes anæsthesia on the ground of "the great superiority of allowing nature to conduct the whole process of the birth." But anæsthesia does, in reality, allow "nature to conduct the *whole* process;" it merely abstracts that pain and suffering which accompanies the act of labour,—a "disadvantage inseparable" from civilisation, to employ Dr. Merriman's expression, and is not an essential part of the process of parturition, according to his own doctrine; for, he states, "in the earliest ages, and in savage nations, childbirth appears to have been, in almost every instance, *easily* accomplished; the mother suffers *little*." And in this state of natural anæsthesia the convalescence is consequently unusually rapid; for again, to quote Dr. Merriman's words, she almost "at once resumes her ordinary occupations." Dr. Merriman afterwards, in speaking of chloroform, decries its propriety in any except "instrumental or very tedious labours,"—arguing that we should not interfere unless labour is morbid, for (to use his own words), "the duty of the physician is to *imitate* nature as far as possible, and watch her methods of acting." But surely the physician strictly imitates nature in her most natural state, according to Dr. Merriman's own premises, when, during labour, he induces by art that state, which, in Dr. Merriman's opinion, originally pertains to parturition. For the female, uncivilized, more truly shows the true method than the female in a civilized state. Besides, are we not called upon to relieve when we can, sufferings, as an act of professional duty and professional humanity? In law and in morals, we judge of actions by their intent. No accoucheur would intentionally inflict the agonies of labour by a deliberate act of *commission* on his part. Is an accoucheur justified in intentionally refusing to save a patient from the agonies of labour by a deliberate act of *omission*? When a child, at birth, is intentionally destroyed by loss of blood, it does not matter, in the eye of the law, whether the death has been produced by voluntary omitting to tie the umbilical vessels, or voluntarily opening other vessels. Up to within the last few months, severe pain, such as we witness in surgery and midwifery, was universally regarded as possessing an evil and morbid effect. Some of the opponents of anæsthesia have taken up a novel and different view; and, as a medical argument against the practice of anæsthesia in midwifery, it has been particularly averred that a labour pain is "a desirable, salutary, and conservative manifestation of life force."—(Dr. Meigs). Parturient "pain is (says Dr. Copland) often salutary as respects its effects; neither its violence nor its continuance is productive of injury to the constitution," &c. No opinion, I believe, could be more erroneous. I have already shown from extensive statistical returns, that the graver operations of surgery are now much less fatal in their results when operated on under anæsthesia, and consequently without pain, than the same operations were when patients were submitted to all the agonies of the knife in their usual waking state. The prevention of the pain in operations is, in other words, one means of preventing danger and death to those operated on; the saving of suffering implies saving of human life. And what holds good in relation to surgery, holds good to midwifery. Pain, whenever it is great in degree or in duration, is in itself deleterious; by shield-

ing our patients by anæsthesia, against the more severe pains of parturition, we not only preserve them from the agony of their more immediate sufferings, but their constitutions also from the effects. And the evidence which I have adduced that, when freed from pain by anæsthesia, they assuredly make more rapid and perfect recoveries than when such means are not used; just as a woman in a savage state, where she enjoys a kind of natural anæsthesia during labour, recovers more easily from the shock of labour than the civilized female. In short, by cancelling the pains by anæsthesia, we, to a great extent, cancel the perils of the process; for the mortality accompanying labour is regulated principally by the length and degree of the patient's sufferings. In the Dublin Lying-in Hospital, under Dr. Collins, out of 7050 delivered within two hours from the commencement of labour, 22 died; or 1 in every 320. In 452, labour was prolonged above 20 hours; and of these 452, 42 died; or 1 in 11,—a difference enormous, and one calculated to force us all to think seriously of the effects of suffering upon the constitution. The last and principal objection against anæsthesia is the supposed danger accompanying the exhibition. In the earliest paper which I published on the subject, I pointed out various cautions in the use of it. When we consider the immense extent to which it has been employed in all quarters of the world, in medicine, surgery, and midwifery,—the little care sometimes observed in its use,—and the deleterious articles with which it is sometimes mixed, the wonder is that so few accidents have happened. By saving a vast amount of suffering, it has already been the means of saving no small amount of human life; and it is improper to argue, as some have done, that the chance of its disagreeing with some constitutions now and then, is any valid reason for refusing its use. If there were any soundness in the reasoning, a thousand things beside would require to be abandoned. Railways, steamboats, stage-coaches, &c., when used as substitutes for the natural and physiological function of progression, and attended with accidents to limb and life. But no one would, from this maintain that conveyance should be abandoned. Many are annually drowned in bathing,—Should bathing, therefore, be prohibited, and this powerful means of maintaining and restoring health be forsaken? According to the Registrar's returns, a great number of lives are lost yearly by the improper use of opium. In 1840, out of every 1,000,000 living in England and Wales, 24 were poisoned by opium, and 22 by other medicines improperly given to children below the age of five years alone.—(See *Seventh Annual Report*, p. 82.) See Taylor on Poisons, p. 187, &c. for the great numbers destroyed in England by opium, &c., improperly given.—Should the use of opium, therefore, be given up? Patients sink under the depressing action of antimony, calomel, &c.—Should these valuable drugs, therefore, be banished from the Pharmacopœia? Many a patient has perished in consequence of venesection.—Should this operation be expunged from surgery? From mistakes and errors, &c., in diagnosis and practice, medicine and surgery are sometimes the unhappy means of destroying instead of saving life.—Should these arts, consequently, be interdicted? Published works on medical subjects have sometimes led both patients and practitioners into fatal errors. Should no medical works, therefore, be allowed to be published? *Bibliography of Anæsthesia*.—See Medical Gazette for 1847, Vol. XXXIX. p. 460. Also Provincial Journal for 1847, p. 84.

**Lancet** for February 27, 1847.—Before this date, viz. on the 26th of January, a state of anæsthesia was attempted to be induced in a patient upon whom the Cæsarean section was performed by Mr. Skey of St. Bartholomew's Hospital, London. "But the inhalation of the vapour of ether was unsuccessful, or but very partially successful."—(*Lancet*, Vol. 1. 1847, p. 140.) *Medical Times*, 1847, p. 96. *Lancet* for 1847, Vol. II. p. 121, and p. 305. *Lancet* Vol. I. 1847, p. 446. *Medical and Surgical Cases*, by E. Suttleff, London, 2 vols. 8vo., 1824. *Gazette des Hôpitaux*, 30 Janvier, 1847. *Bulletin de l'Acad. Roy. de Medic.* Tom. XII. p. 400. "Le 23 Février, M. P. Dubois, qui avait eu connaissance des recherches de M. Simpson, communiqua à l'Académie de Médecine le résultat de ses expériences.—(*Chambert. Des Effets des Ethers*, p. 231.) *Bulletin*, tom. xii. p. 407. De l'Ethérisation dans les Accouchements. *Marseille* 1847. *Gazette Médicale de Strasbourg*, 27 Mars, 1847. Ueber de Künstliche Anæsthesie bei Geburten. *Jena* 1848. *Medical Gazette*, Vol. XXXIX. 1847, p. 1052. Ueber Aether-einathmungen während der Geburt. *Liepsig* 1847. Two cases of the inhalation of ether in instrumental labour. *Boston* 1847.—(From the *Boston Medical Journal*.) Dr. Channing, in a postscript to an American reprint of one of my Essays on Chloroform, has announced his intention of soon publishing a volume "On the employment of Etherization in Childbirth." *Philadelphia Medical Examiner*, March, 1848. *Boston Medical and Surgical Journal*, February 2, 1848. See *Lancet* for November 20, 1847, p. 533, and December 11, p. 618; also *Medical Gazette* for November 26, p. 934. See also Dr. Murphy's able Harveian Oration on the employment of Chloroform.

**Arantius Julius**.—An Italian physician and anatomist of considerable eminence, the pupil of Vasalius and Bart. Magus. The author of a learned treatise on the human fœtus, Venice 1595. This writer was born at Bologna, and died there in 1581, aged 61 years.

**Ascherson Ferdinand Mauritius, M.D.**—The author of a celebrated Monograph on Congenital Fistulæ of the Neck, with a succinct history of the Bronchial Fissures in Mammals and in Birds. Published at Berlin, 1832, and first translated into English by Dr. Knox, for the *British Record of Obstetric Medicine and Surgery*, edited by Dr. Clay. 1848.

**Ascites**.—An accumulation of fluid in the abdomen, usually termed abdominal dropsy, a disease to which both sexes are liable at all ages; it is, however, more frequently observed in the female than the male sex. We shall refer the reader to other authorities for its diagnosis and treatment; it will be necessary for us to notice this disease in our articles pregnancy and ovarian disease, as it is a matter of importance not to confound Ascites with either of the diseases just named.

**Ascites Infantilis, in Utero**.—Is one of the principal diseases which render the child disproportionate to the apertures of the pelvis. There is not the difficulty attendant on distinguishing this disease as Uterine Hydrocephalus, the head having been expelled, it is easy to see that the difficulty arises from the distension of the abdomen of the child, and a careful examination will, in most cases, distinguish between Ascites and Tympanites. In the latter case the air is seldom limited to the abdomen, but the face and chest will be found more or less puffed up by the confined air.

**Ashwell, Samuel, M.D.**—An eminent living obstetric author, resident in Grafton-street, London. The author of "A popular treatise on the diseases peculiar to women." Illustrated by cases derived from hospital and private practice." Dr. S. Ashwell lectures on Obstetrics at Guy's hospital. His work brings the consideration of its subjects down to 1844.

**Asphodelus Ramosus.**—The plant bearing this name was formerly used as an Emmenagogue, but is now entirely laid aside.

**Astruc John.**—An eminent French physician, born 1684, studied at Montpellier, was physician to the king of Poland in the seventeenth century. He was author of the celebrated "History of Languedoc," and some medical treatises; his medical writings were chiefly obstetrical. His best work is well known, viz., "A Treatise on the Diseases of Women, &c." in three vols., English Edit. London, 1762, which is an elaborate work of research, but too prolix. Astruc died at Paris, 1766.

**Atoma.**—(From  $\alpha$  neg. and  $\tau\epsilon\kappa\nu\omega$ ) a child. This word was used by the celebrated Linnæus in the sense as anaphrodisia.

**Atecia.**—(Same deriv.) Defect of offspring, whether from impotence or abortion.

**Atelectasis Pulmonum.**—A term given to children born alive, and yet die from the imperfect filling of its lungs with air. Many cases of cyanosis, infantile bronchitis, atrophy, and even convulsions owe their origin to a partial continuance of the lungs in their foetal condition.

**Athara, or Athera.**—A sort of panada for children, made of bruised corn.

**Atlee, W. L., M.D.**—An American Physician and Professor of Medical Chemistry in the Pennsylvania College, Philadelphia, U. S.; now living, and the author of some cases of extirpation of the ovary by the large incision, as first established in England by the Editor of this Encyclopædia. Dr. Atlee's cases were journalized April 17th, 1844.

**Atocia.**—(From  $\alpha\tau\omicron\kappa\omicron\varsigma$  barren.) Vide *Atecia*.

**Atomia.**—Vide *Adynamia Uteri*.

**Atresia.**—(From  $\alpha$  neg. and  $\tau\alpha\rho\eta\mu\iota$  to perforate.) **Atresie, F.**—**Atresia, L.**—The absence of a natural opening or imperforation of any canal or cavity that should naturally have a free communication, as imperforation of the vagina, rectum, &c.—*See respective articles.*

**Atrophy.**—Vide *Tubes Mesenterica*.

**Attitude.**—S. f. situs corporis, m. L.—**Attitude F.**—*stellung, leibesstellung*, f. G. Attitude or position of the body. Correct observation of the attitude of the body of patients may be turned to a valuable account in the diagnosis and treatment of various diseases. In Obstetric practice the position of the body is of great importance. The usual position for delivery is (in British practice) on the left side, the head bowed forward, the knees raised and separated with a pillow, the curve of the back to the side of the bed or couch, the hips of the patient close to the edge, so as to facilitate the manual operations of the accoucheur.

**Aubrey, John.**—An eminent physician of Bourbonnois, author of various works, but more particularly of a curious and learned work called *Pantidote de l'amour*, in 1699.

**Auliscos.**—(From  $\alpha\upsilon\lambda\omicron\varsigma$  a reed pipe.) A catheter or clyster pipe was formerly so named.

**Aura Seminalis.**—The supposed most subtle and most vivifying portion of the semen virile, which, according to some physiologists, ascends through the fallopian tubes, to impregnate the ovum in the ovaria or ovarium. The existence of this aura is entirely a matter of Physiological speculation.

**Aura Vitalis.**—Another speculative term of Van Helmont's to represent the vital principle.

**Aurelius**, or Aulus, Cornelius Celsus, a Roman physician of the reign of Tiberius, A. D. 35; celebrated as the eminent author of a treatise of practical and theoretical medicine, written in the purest Latin, and the only known work written in the Latin language, whilst in its greatest purity. Some dispute if Celsus (as he is commonly called) practised medicine, supposing him rather a man of great genius and knowledge who undertook to write on medical subjects. This is a question difficult to decide, and of no great value if it were so. There is no doubt his works were compiled from the works of the Greek physicians, and particularly Hippocrates; in which the subjects are disposed without regard to any particular arrangement; and which may be considered rather as miscellaneous memoirs or essays on medicine, written in the choicest Latin and in the most elegant style. And it may also be fairly presumed that his own experience was added. The work which bears his name is divided into eight books, in the fourth the hysteric passion is described but indifferently, but by the collation of two Celsian manuscripts this chapter is evidently imperfect, (one part, the end, missing.) In the seventh book are two chapters on the diseases of women. The twenty-seventh chapter treats on the *Imperforata* (impervious girls) ἀρρηται and the extraction of a dead fœtus. There is nothing in Celsus about women and children but what is better treated on elsewhere. It is not to gain knowledge he is read, but for pure Latin and style of writing.

**Auscultation**, s. f. Auscultatio, f. (Auscultare, to listen,) L. — Auscultation, F.—Zuhören, G. exploration by Stethoscope. The Stethoscope of late years has added much to our general knowledge in reference to diagnosing disease, it has also proved highly valuable in determining the existence or the contrary of pregnancy, the life or death of the fœtus in utero, &c. M. Major, in 1819, (Biblio. Univers. T. ix. p. 248. Isis 1819, pt. iv. p. 542) asserted that the fœtal pulsations might be heard through the parietes of the mother. Three years after Lejumeau de Kergaradec (1821) described two sounds, perfectly distinct from each other. *One*, single pulsations, synchronous with those of the mother's heart, with whizzing deep sound heard over a great part of the uterus. *The other* sharp, distinct, double pulsations, a sort of tick following a rythm, not synchronous with the maternal circulation. The *former* was supposed to be the circulation in the spongy part of the placenta called *souffle placentaire*, (of late however it has been found that this sound is not *placental* but depending upon the increased vascularity and peculiar arrangements of the vessels of the gravid uterus.) The *latter*, the pulsation of the fœtal heart. *Uterine Souffle.*—The Uterine Souffle may invariably be heard in one or other of the inguinal regions, and over most part of the uterus, according to Nægele, junr., this sound may be heard in every part of the uterus and states that it is produced by the uterine arteries before they enter the uterus, which vessels when they arrive at the broad ligaments, assume a different

**ABSTRACT OF PROCEEDINGS OF THE OBSTETRIC  
SOCIETY OF EDINBURGH FOR 1847 AND 1848.**

—SESSION 7. 8vo. PP. 32. EDIN., 1848.

The interesting report of the past year of this society is one of which its members may be justly proud, containing, as it does, much important matter, illustrated with plates and some valuable tables on statistical questions. Many of the papers have already been quoted largely in our retrospect for the past year; we are, therefore, not called upon to transcribe any of its articles a second time. One or two points, however, we believe we have not previously touched upon.

A case of spontaneous amputation of the arm in utero, with a supposed attempt by nature to restore the deficiency, by Professor Simpson.

We may also add the description and measurements of the forceps generally used by Dr. Simpson. The blades are those of Dr. Ramsbotham's. The lock is Smellie's, but with knees or projections above it, of such size as to prevent the blades readily unlocking in the intervals between the pains, thus giving it the fixed character of the locks of Levret and Brunninghausen, without their complexity. The joints are so loose as to admit of considerable lateral motion, over-lapping, thus facilitating their introduction and application. The handle is that of Nægele. The dimensions—entire length,  $13\frac{3}{4}$  inches; handle, including lock,  $5\frac{1}{4}$  inches; length of shank, from lock to beginning the curve,  $2\frac{1}{4}$ ; length of blade,  $6\frac{1}{4}$ ; extreme breadth of blade,  $1\frac{1}{2}$  inches, from the point, was  $1\frac{5}{8}$  inches; fenestra,  $4\frac{1}{2}$ , breadth of fenestra, 13 lines; breadth of groove of the lock,  $\frac{5}{8}$  inch; thickness of the shank to fit the groove,  $\frac{3}{8}$  inch; extreme distance between blades, 3 inches; distance between the points, 1 inch. To which is added some judicious remarks on their application,

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**OBSTETRICAL STATISTICS. A SECOND LETTER TO  
DR. COLLINS, BY PROFESSOR SIMPSON, EDIN-  
BURGH—8vo. PP. 24. EDIN., 1848.**

It would be somewhat unfair to notice the dispute between Dr. Collins and Professor Simpson until we are convinced both parties

have said all they intend on the subject; then we may perhaps sketch the whole question for the benefit of our readers, but we are well informed the dispute is not yet ended.

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# ON THE USE OF CHLOROFORM IN DENTAL SURGERY.

—BY J. CHITTY CLENDON.—LONDON, S. HIGHLEY, FLEET STREET. 1849.

The author writes ably in his department, and, in respect to chloroform, his observations show considerable tact and experience. The plan of our journal will not allow us to enter further into the merits of this production.

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# THE SERPENTINE "AS IT IS, AND AS IT OUGHT TO BE," AND THE BOARD OF HEALTH "AS IT IS, AND AS IT OUGHT TO BE."—BY E. J. TILT, M.D., &c. 8vo. PP. 67. CHURCHILL, LONDON. 1849.

The subject of this pamphlet is not within the arrangement of our plans to notice. It gives us pleasure, however, to state that it is a most able exposure of the anti-sanitary state of the metropolis, and the imbecile attempts put forward by government to meet so great and increasing an evil at a time when cholera threatens on every side. Dr. Tilt deserves the best wishes of the medical profession for his able advocacy of its undoubted rights, which are daily trampled upon and abused by law, lawyers, and aristocratic statesmen generally; personally, in the time of need, all are ready to acknowledge the services of medical men, but publicly, every means are put forward to abase and insult them. Dr. Tilt's pamphlet ought to be read attentively by all.

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# MEDICAL JURISPRUDENCE.—BY ALFRED S. TAYLOR, F.R.S. THIRD EDITION, PP. 849. LONDON, CHURCHILL.

The fact that four thousand copies of this work have been sold in four years, is a proof that the book is acceptable to the public,

and the study of medical jurisprudence is not neglected. That it should receive full attention is loudly demanded, from the importance of the subject. The fallacies which interfere with the expression of a correct medical opinion in courts of law are numerous.

The author, in his preface, calls attention to the new matter contained in the present edition. Reference is made to Mr. Curling, in the section on burns, wherein that gentleman determined that certain fissures in the skin (supposed to be wounds) were the result of the action of fire and not of suspected mechanical violence. He drew this conclusion from the fact that some uninjured blood-vessels traversed the fissure, the great tenacity of their coats enabling them to resist the laceration, which was merely owing to the effect of heat corrugating the skin, and destroying its elasticity.

"The chapters on pregnancy and delivery have been almost entirely re-written, and the new views of physiologists regarding the evidence from the presence of corpora lutea are fully considered."

Although the recent publication of the author's work on poisons has induced him to abridge the section of this portion of the treatise on medical jurisprudence, yet more than a hundred pages have been added to the present edition.

The young medical student will find in this book abundant matter of interest, and it will show him very forcibly the practical application of every science connected with medicine to the purposes of the law. To the practitioner who is called on to perform the responsible duties of a witness, we deem this volume indispensable as a work of reference. It would be useless to compare this work with that of Paris and Foublanque, in 1823, which, from alterations in the law, has become a dead letter.

#### RETROSPECT FOR JANUARY, 1849.

**PRACTICAL MIDWIFERY.**—*Contusion of the Scrotum in Breech-Presentation.*—M. Van Hæslorbeck calls attention to contusion and consequent gangrene of the scrotum as an event not unfrequent in breech-presentations. Having met with three cases in which the child died from sloughing of the parts, he has since always adopted the precaution of pushing the scrotum up above the union of the thighs, and preventing its descent by mechanical means.—*Revue Medico-Chirurgicale*, Sept. 1848.



*A Case of Preternatural Labour*—Mr. Waterworth related a case (Med. Society.) M. H. æt. 40, delivered in 1831, at the full period of gestation, by craniotomy, owing to great deformity of the pelvis, in consequence of which she was advised, should she again become pregnant, to be delivered at the 8th month. She, however, neglected, and craniotomy was had recourse to in 1839. On the 18th of Nov., 1848, in consequence of being again pregnant, and in labour, medical aid was sought, when she was found with a feeble pulse, and in extreme prostration. On inquiry, she was advanced to the 7th month of gestation, and on examination, the side was discovered presenting, and as there was a spiculum of bone felt, it was supposed to be a portion of fractured rib protruding through the skin. The woman being in danger, it was thought advisable to deliver, which was accomplished by turning. The child was dead, and the bone was the distal end of the humerus, the arm having been torn away an inch above the elbow. On examining for the placenta, a coil of intestine presented, and being mistaken for the funis, was drawn into the vagina: it was, however, immediately returned, and as life was ebbing fast, nothing was prescribed excepting wine and opium. She denied all knowledge of how the injury to herself and child had happened.

19th. In the same moribund state. To continue the wine, &c.

On the 20th, still surviving in the morning—confessed that she attempted to deliver herself, and pointed out a box, where the arm was found. Before death, she rose from her bed, and, in a state of delirium, trod upon her intestines, and tore off nearly a yard. At the post-mortem examination on the following day, it was found that the uterus was torn at the os, and only to a small extent, but the rest was joined to a laceration of the vagina on the left side, laterally and downwards, through which the intestines were hanging, but there was no placenta discovered.

[It appears to us that the exertions of the woman ended with pulling the arm off, and that it is highly probable that the wound was made by the sharp end of the humerus during the operation of turning. No intestine was discovered before the attempts to turn, although a vaginal examination had taken place. It appears singular that life was ebbing fast on the 18th, yet she did not die till the 20th. Was this a case of *placenta prævia*?—Ed.]

*Uterine Hemorrhage*.—In the *Lancet*, Jan. 13, Dr. Slyman proposes a novel method to check profuse hemorrhage, viz. two bladders connected by a tube, and stopcock: one bladder (the

empty one) introduced through the vagina and os uteri into the uterus; then the whole apparatus is united; the bladder at the opposite end being full of air or water is forced to the opposite extremity, and the cold thus applied the remedy. [As Dr. Slyman solicits suggestions, we earnestly advise him to content himself with having made the suggestion; we believe it not practically advisable to keep the uterine walls distended; we prefer bringing them nearer together, as more natural, and certainly more effective. Dr. Slyman's proposition should have been backed by practical facts.—Ed.]

*A Quintuple Birth.*—By J. Russell, Esq. *The Lancet*, Feb. 2.—The following case presents many peculiarities. On Sunday, Jan. 14th, I was sent for to see Mrs. W——, a healthy, well-formed woman, aged twenty-four, the wife of a shoemaker, living in Rochester-terrace, Rochester-row, supposed to have been with child between four and five months. She stated that, having occasion to go from home, she had proceeded but a short distance, when she was attacked with what appeared to be the pains of labour, and returned immediately; almost as soon as she entered the house, the membranes ruptured, and before I could get to see her, she had brought forth four fetuses, and as I entered the room, another was born, making a total of five well-formed male fetuses. The largest was six inches, and the smallest five inches long: of course they were all dead. There was not any hemorrhage, and each fetus was expelled by one separate pain. The uterus now contracted so firmly that it was impossible I could get my finger within the os, for the purpose of removing the placenta; I consequently remained with her, and after an hour and a half, no other pain manifesting itself, I desired she might take a draught, with infusion of roses, and a drachm of ergot of rye. This, in about four hours, was followed by a solitary pain, and the placenta came away. Upon examination, it was found to be of the ordinary size for the period, and had attached to it five umbilical cords, arranged in a circular form around the centre.

The case I have just described is interesting, both as to the number of pains, and the arrangement of the umbilical cords. I am aware there are cases on record where more than the number of fetuses I have mentioned have been expelled at one birth, but I am in doubt whether in those cases the pains were limited to one for each fetus, and whether there was one or more placentæ. The subject of this freak of Nature has one child living, two years and

a half old, and has had two miscarriages. She is progressing favourably, and has never had a bad symptom.

[How does the author take upon himself to say that the pains were limited to one for each foetus, when four of the foetuses were born before he saw the patient.—Ed.]

**DISEASES OF WOMEN.—Uterine Disease.**—Dr. Mitchell's instrument for applying Vienna Paste to the os uteri consists of a glass tube seven inches long, terminating with a bell mouth of the diameter of a shilling. Through this tube a long solid rod of glass is passed, bearing a dish of the same material attached to its extremity. Upon this dish the paste is spread, the tube part protecting the vagina and other parts not requiring to be cauterised. The speculum can be withdrawn when the instrument has been adjusted, and a steady pressure upon the glass rod will suffice to keep the caustic closely applied to the part required to be cauterised. By this means no parts are injured except where the dish touches, and, after a period of ten minutes, the instrument may be withdrawn without the necessity for the second introduction of the speculum.

**Ovarium successfully extirpated.**—By Dr. Miller, of Louisville, Kentucky.—Patient æt. 37. The operation occupied nearly an hour (a long time). The ligatures came away on the thirty-first day. Tumour weighed, exclusive of fluid removed by tapping, 9½ lbs. The patient recovered well.

**Quinine a Prophylactic of Puerperal Fever.**—During an epidemic of puerperal fever, which occurred in the hospital of Rouen in 1843, the thought occurred to Dr. Leudet of ascertaining by experiment whether quinine possessed the power of enabling the economy to resist the contagion of this disease. From the 21st September, 1843, to the 8th January, 1844, eighty-three women were delivered in the Hôtel Dieu of Rouen; in nine of these women to whom quinine was given, not one case of puerperal fever occurred, while of the remaining seventy-four, who received no special treatment, twenty-one suffered from the disease. In two later epidemics, its utility was subjected to a more extensive trial. From the 8th of July to the 9th of August, 1845, of twenty-six cases of delivery, fifteen were treated with quinine; one only of these was attacked, while of the remaining eleven, eight had puerperal fever. Lastly, during an epidemic which prevailed in Rouen, from the 19th of March to the 21st of April 1846, there were thirty-six deliveries. Quinine was prescribed to seventeen women, only one of whom

had fever, while of the nineteen who were submitted to no special treatment, eleven were attacked with the disease.

Dr. Leudet begins the prophylactic treatment about four hours after delivery, by the administration of five grains of quinine, which dose is repeated twice during the same day, at intervals of five hours. On the second day, the same doses are given; but on the third day they are diminished to three grains thrice daily, and are so continued for four days more.

This method is adapted for the more common form of epidemic, where the fever does not present itself for three or four days after delivery. When it appears during parturition, or immediately after it, Dr. Leudet advises that the use of quinine should begin with the first symptoms of labour.—*Theses de Paris*, 1847, from *Monthly Journal*.

*Ovarian Extirpation*.—The case of Mr. Burd reported successful some time ago at the Salop Infirmary became pregnant the year following her dismissal from the hospital, went her full time, and gave birth to a strong male child. She is now again in the full enjoyment of unimpaired health. [One of our cases has been pregnant the second time since the operation.—Ed.]

*Excessive Hemorrhage during the Catamenia*.—By Dr. Massy.—The patient, aged forty, the mother of five children. Nine years ago, lost her husband, and ever since, the period of menstruation has been regular but unusually long, lasting for five or six days, accompanied by three half-pints of red florid blood, followed by great prostration and a sinking sensation. The patient is stout, bilious temperament, healthy appearance, and good appetite. The cause of hemorrhage appears to depend upon the uterine functions being checked in their operations at too early a period, so that, had her husband lived, she might have had by this time, nine children; it is a case for which medical treatment can afford very little benefit.

*Sterility*.—Some interesting practical observations will be found in the *Lancet*, Jan. 27, on this subject, by G. T. Gream, Esq., remedied by mechanical treatment, chiefly dilating bougies.

*DISEASES OF CHILDREN*.—*Nocturnal Incontinence of Urine* in children is proposed to be treated by M. Blache in the *Repertoire de Pharmacie* by belladonna. A number of successful cases are stated, although the author cannot satisfactorily explain its action.

*An Extraordinary Case of Injury within the Uterus, with partial reparation before birth*. By John Jones, M.B., C.S., &c., Dalton.

[Communicated by Dr. Pereira to Med. Chirurg. Soc. London.]—Mrs. B——, of Dalston, was attended by the author in April last, in her first confinement. She had a quick labour, and bore an average-sized male child. A few minutes after the birth, his attention was directed to the following appearance by the nurse :—An open wound extended from the third dorsal vertebra, across the scapula, along the back part of the humerus, to within an inch of the elbow. The existing condition of the wound at the time of birth was illustrated by a drawing, which showed that a considerable portion of the wound was already healed, a part of the cicatrix seeming to indicate that there had been ulceration of the edges of wound prior to the healing by granulation. The edges of the wound were jagged, and at the spinal termination appeared bifurcated. In speculating upon the probable causes of this singular injury, the author classes his queries under four heads—viz. Could a blow produce it? Was it the funis? Was it by a sudden and violent contraction of the uterus? or lastly, May it not be ascribed to an accident which the mother had about six weeks before delivery? The author considers that he is justified in concluding that the last-mentioned was the efficient cause. The nature of the accident was this :—The patient was running down stairs in a hurry, when she trod upon a cat, and to save herself, made a spring of five or six steps at once, alighting on her feet. This was succeeded by faintness at the time, and a sanguineous discharge from the vagina on the following day, which, however, soon disappeared. The author states that this large wound was quite healed at the expiration of five weeks; and concludes his paper by directing attention to the importance of the case in a medico-legal point of view.

[We think *none* of the surmises will account for it. Has *all* the case been truly related.—ED.]

*Vaccination.*—A French author has lately busied himself by asserting that a great amount of evil has resulted to society by vaccination. He endeavours to shew that mortality has increased from 11 to 12 or 13 per cent, viz. from the ages of from 7 to 20. Also, that old people previously presenting 76 or 78 per cent. now present 80 per cent. The whole work is so wild and fanciful that it condemns itself.

*Cod Liver Oil.*—As this remedy is now in frequent use, a test of its purity will be acceptable. If good, a few drops of Sulph. Acid will cause it to become cloudy with a violet tinge. If bad, the color will be a reddish brown, or nearly black.

AN ESSAY ON SOME OF THE MOST IMPORTANT DISEASES OF WOMEN, WITH A DESCRIPTION OF A NOVEL INVENTION FOR THEIR TREATMENT AND RELIEF.—BY W. JONES, M.D., &c. &c. WITH CASES AND WOODCUTS. LONDON: BALLIERE. 12mo. PP. 40. 1848.

The ostensible object of this small work is to draw the attention of the profession *and the public* to the use of a Syphon Douche, in a variety of uterine and vaginal diseases. As advocates for cleanliness under all circumstances of health or disease, either as a curative or preventive, we see no reason to object to the Syphon Douche. It is simple in its construction, easily applied, and of little cost,—three great objects to secure for it an extensive application. The cases adduced by the author, illustrative of its beneficial use, are about a dozen, very briefly stated, but appear to confirm the utility of the Syphon Douche.

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ON INFANTILE LARYNGISMUS, WITH OBSERVATIONS ON ARTIFICIAL FEEDING AS A FREQUENT CAUSE OF THIS COMPLAINT, AND OF OTHER CONVULSIVE DISEASES OF INFANTS. BY JAS. REID, M.D., &c. &c. LONDON: CHURCHILL. 8vo. PP. 204. 1849.

It gives us great pleasure to direct public attention to this very excellent work on a most important and somewhat rare disease. Fortunately, the task has fallen into hands not only experienced in practice, but able to cope with all the difficulties of the question, theoretically and pathologically. We do not intend saying much on the historical department of the work, which is of the least importance. The author observes that the period of dentition is the most liable to attacks of this malady: this period may be said to commence with birth, but the period of cutting the teeth is attended with the severest form of convulsion, the author having noticed only two cases after the appearance of the deciduous teeth. This is the view also of Hamilton, North, and some German writers. Dr. Copeland states "from birth to the third or fourth year." Dr. Ley saw a case at five, six, and seven years of age. Dr. H. Davis says "from seven months to two years and a half." But the

author had observed the attack in much younger infants. Sir H. Marsh had a case three days after birth—Underwood one on the fourteenth day. Like Croup, Laryngismus attaches itself to particular families, although locality influences its development. The author saw five cases in one family—Dr. M. Hall three—Mr. Powell thirteen children; and one only escaped. British practitioners having only attentively noticed this malady since 1760, little can be said respecting hereditary disposition. Scrofulous habits have been said to be liable to it—the author's experience doubts it; and Dr. Stokes has shewn that phthisical habits are not particularly prone to it. "*As a more general indication I should venture to say that infants of a nervous temperament, who are easily excited, who are awakened by slight noises, and who are not satisfied unless they are kept constantly on the move, are much more susceptible of Laryngismus than other children.*"

*Symptoms.*—Closure of the glottis is either partial or complete; however trifling, it soon progresses to the worst form. The attack is generally at the waking hours of morning; as it progresses, agitation and distress, gasping for breath, convulsive inspiration, with a crowing or sibilant whooping followed by terror, head thrown back, face livid, threatened suffocation, and expulsion of flatus. A full-drawn inspiration, or noise causing such, may bring on the attack. Closure of the glottis is more extreme than in whooping cough, hysteria, &c. *Mucous rattle in the larynx* sometimes forms the prelude to more striking symptoms—sometimes observed in the intervals. *Cough* is an occasional, but not a necessary, accompaniment. *Spasm of the extremities* is a common symptom—thumb inwards—and toes downwards—*general convulsions*—are also occasionally, but not always present. *Disorder of alvine secretions* is a pretty general symptom.

*Causes.*—The direct and immediate cause is the closure of the air passages, but the primary or remote cause is undecided; perhaps there exist more than one. Dentition, undigested food, worms, retrocession of eruptions, have all had their share in producing this affection.

*Cerebral Cause.*—Dr. Jno. Clarke maintained "*that in every kind of convulsion (be the remote cause what it may) the brain is at the time originally affected either directly or indirectly,*" which led to depletory treatment. This question ought to be settled before the treatment can be determined. The author however states "*that there are not present the usual symptoms of brain congestion.*"

*In very many cases no pathological appearances are found in the brain.*

*And lastly, remedies most suitable are not those commonly used in cerebral congestion.*

The author enters lengthily into the proofs of these positions by pathological demonstration.

*Intestinal disease* is an almost invariable accompaniment of laryngismus, the author having only witnessed two cases where it was not present.

*Atmospheric Influence*, if not sufficient as a cause to originate the disease, aids in keeping up the irritation by other causes. Change of air has acted beneficially in some cases (*Vide* Merriman): thus some localities would favour its continuance, other localities remove it. Underwood states that odours sometimes excite attacks. After the enumeration of all causes, the author concludes, "*that the cerebro-spinal system is required to be peculiarly excitable, thus acting as a predisposing cause—hence teething most frequently produces this condition.*"

"*That during this irritability improper food and impure atmosphere are the most frequent causes of continuance.*" Of course, under the head improper food, *rearing by hand* is largely and ably treated on, and many valuable cautionary hints are given.

*On Diagnosis.*—The only diseases likely to be mistaken for it are Croup, Hydrocephalus, and Hooping Cough. Some authors designate Laryngismus as "*Spasmodic Croup.*" In Laryngismus there is no previous catarrh, as in Croup. There are no inflammatory or febrile symptoms present: it is more in towns than rural districts, and is purely a "*spasmodic disease.*" In reference to Hydrocephalus, there is generally a previous emaciation, and successive febrile attacks, languor, loss of appetite, cough, nausea, heat of head, intolerance of light, frowns, contracted pupils, rolling of the head, screams, drowsiness, &c. The bowels are much the same as in Laryngismus. Crowing respiration is rarely heard in Hydrocephalus, and then the relative size of the head is a valuable distinction. Compared with Hooping Cough, the crowing is not so sonorous. In Laryngismus there is no convulsive cough, no retching, or expectoration.

*Prognosis* is rather uncertain, for the mildest cases often suddenly assume a dangerous form. The principal danger is from suffocation and cerebral convulsion. The *duration* of the disease is variable. The mortality variable also. Gooch says, one-third die—chiefly



male children, fed by hand. Sir H. Marsh, out of five cases, lost three—Hirsch about the same—Dr. Ley says it is not commonly fatal—Dr. H. Davis states it frequently fatal. The author coincides with Dr. H. Davis, particularly during dentition, but has observed no fatal case after the appearance of the deciduous teeth. The disease is said to be more frequent now than formerly; perhaps, says the author, it is better recognised. Pathological demonstration aids but little—few, if any, morbid appearances can be discovered.

*Treatment during the attack.*—Hot water to the feet and legs, cold affusion to the head, blowing in the face, slapping the chest and nates, current of fresh air, artificial respiration, inhalation of ether and ammonia, and even tracheotomy.

As to the prevention of attack, *lancing the gums* must not be lost sight of, for though such irritation may be questionable as a cause, there can be no doubt as to the continuance of the attack from such irritation.

*Abstraction of Blood* is not recommended by the author, unless very strongly indicated.

*Emetics* are also objected to, unless where there is evident repletion.

*Purgatives* are particularly useful—generally calomel, combined with rhubarb or scammony—accompanied with alkaline medicines, lime, or ammonia.

*Antispasmodics.*—The author, along with Millar, Rush, Underwood, Clarke, Halford, Hirsch, Pretty, and others, decidedly looks upon this class of medicines as peculiarly advantageous, and adds several forms in which ammonia and valerian are the principal ingredients. The diet of infants is largely descanted upon—suckling preferred to hand feeding, wherever practicable—and in hand feeding the diet ought to be the nearest approach to the natural food of the infant. Exercise and change of air at all times very beneficial. Mr. Robertson, of Manchester, in an able paper in the *Med. Gazette*, is equally strong on the efficacy of change of air.

The volume concludes with a number of well-authenticated cases, carefully recorded. It is impossible in so short a sketch to give anything like a satisfactory exposition of this valuable work: it contains, as a whole, all the necessary information on the subject, admirably written, and well deserving the attention of the practical medical man, to whom it will prove a valuable adjunct.

## RETROSPECT FOR FEBRUARY AND MARCH, 1849.

**PRACTICAL OBSTETRICY.**—*The Bandage in Midwifery.*—Mr. Leonard writes in the *Medical Times*, "Every tyro in the practice of Midwifery must have observed how rarely that useful appliance, the bandage, fulfils its desired object, owing to the difficulty of retaining it in its proper position, and maintaining the requisite degree of pressure. Now, I have found that elasticity, at present so usefully employed in surgical practice, can, with equal advantage, be employed to remedy this defect. One or more pieces of vulcanized India rubber being let into a bandage of the ordinary width, &c., (which may be fastened with buttons, strings, or buckles, according to fancy; I prefer the latter,) retains it in its proper position, maintains an equable support to the abdomen, and also can be more easily applied than the one in ordinary use. The great comfort which patients have derived from the use of this bandage I think sufficiently justifies me in recommending it.

*Sudden Death during Labour.*—Dr. Drummond, of Dundee, was called to attend this patient, aged 27, in labour with her first child. She had been married seven years, was not robust, but enjoyed pretty good health. For some time before labour, she had observed that her feet and legs were œdematous. As labour made little progress, Dr. Drummond left her, but was afterwards hastily summoned, and found her in a state of complete coma, which had come on after a convulsive fit of fifteen minutes' duration. The left side of the body was in a state of tonic spasm; the right completely relaxed. Blood was drawn to the extent of about forty ounces. All this time the os uteri was slightly dilated, the membranes ruptured, and slight uterine pains existed. The coma continued profound, in spite of the bleeding and the other means used to cause derivation of blood from the head. She died within two and a half hours from the first seizure. No autopsy was procured.

Dr. M'Cowan stated the case of a woman whom he had attended in her first labour. On coming to her, he found her suffering from false pains, dyspnoea, pain in the region of the heart, &c. The face and legs were œdematous. A small quantity of blood was drawn, with immediate relief to the symptoms. Subsequently, labour came on, and proceeded naturally till the child (which was dead) was born, when she immediately expired. On the autopsy, there was found advanced disease of the heart and aorta.

Dr. Simpson stated, that, when acting as House-surgeon to the Lying-in Hospital, a midwife sent for him to see a patient that had suddenly died, immediately on the expulsion of the infant. The labour had been natural, and without any complication; but the previous history of the patient indicated the existence of heart disease. Not long after, a pupil of the Institution sent for him to see a patient, who, on rising from bed, about a week after delivery, immediately fainted and died. There had been no peculiarity in the labour or recovery. Denman, Clarke, Blundell, Meigs, &c., had, in their works, made mention of similar cases of sudden death during or immediately after labour, and without hemorrhage or convulsions occurring in their practice. Dr. Simpson had always taught that heart or chest disease formed a complication demanding great care, not only in itself, but as rendering patients unable to endure, for any great length of time, the fatigue and exertion of a difficult second stage of labour. He considered that, in such cases, instrumental assistance should be earlier given than in cases without such complications.

A similar case is reported by Mr. Booth, of Sheffield. He says, on July 29th, 1847, I was summoned at five o'clock in the morning to attend Mrs. Brooks in her first labour; she was twenty-seven years of age. All went on regularly, until I was certain that only one or two pains were necessary for the expulsion of the head of the child. When, to my great surprise, at the time I expected a pain, I turned my head, and found she was in a convulsion. I immediately opened a vein in the arm, sent a messenger to a medical gentleman who resided in the immediate neighbourhood, with instructions to bring with him a pair of forceps. In a few minutes he was in the room. We immediately delivered the child and placenta, and in from fifteen to twenty minutes she was dead—two hours and a half from my first arrival. For some time before labour she had observed that her feet and legs were œdematous.

*Puerperal Convulsions.*—By Dr. Murphy.—Dr. Murphy lays down the following propositions on this subject:—

1st. Puerperal convulsions should not be confounded with epilepsy, nor with apoplexy. They agree with the epileptic attack in their physiological, but not in their pathological characters. Apoplexy is an effect of the paroxysms, which may or may not follow from them.

2nd. The predisposing causes of puerperal convulsions are either an excess of blood (hyperemia), a deficiency of blood (anemia), or impure blood.

3rd. The proximate causes of convulsions are chiefly eccentric causes, being the morbid irritation of the afferent nerves supplying the different vital organs.

4th. *Morbid irritation of the uterus* is the most common proximate cause of puerperal convulsions, the result either of hyperemia or anemia. Hence the division into sthenic or hyperemic convulsions, and asthenic or anemic convulsions. Under the latter head we include, not merely loss of blood, but poverty of blood, and impure blood—because the effect seems to be similar, only differing in degree.

5th. *Morbid irritation of other organs* also causes puerperal convulsions, because, during pregnancy, and at the time of labour, the nervous system is more excitable than at any other time: and hence any organ may easily be rendered morbidly irritable. Puerperal convulsions so caused are much more fatal than the former, because the nervous centre is exposed to a twofold source of irritation—the organ primarily affected, and the uterus that is secondarily excited.

6th. In the whole of these phenomena we must perceive a beautiful illustration of the reflex nervous function—the peripheral nerves that supply the affected organ rapidly communicating their irritation to the spinal system, which, as an excito-motor centre, radiates the irritation over the whole of the voluntary muscles, and the muscles of respiration, in violent convulsive paroxysms. Even the involuntary muscles, as the uterus and heart, do not escape, but give every evidence of greatly increased muscular contractions.—*Med. Gaz.*, Jan. 26, 1849.

*Long Forceps Practice, by a writer in Med Times*, Mar. 17th.—The age of the patient was in no instance mentioned; nor, in general, was it stated whether it was a first pregnancy.

1. "Woman had been in strong labour *eight* hours—forceps *slipped twice*—child still-born—pelvis appeared contracted at the brim—woman did very well."

2. "Smart labour for twenty-four hours—child could not be extracted by the forceps—head was opened by the perforator, while the forceps were still applied—a very obvious jutting of the sacrum—incontinence of urine followed, which ceased spontaneously in two or three weeks."

3. "Woman in labour ten hours, after complete dilatation of the os uteri and discharge of the liquor amnii—forceps at first applied without effect; *but after waiting four hours, till the head was*

*impacted among the bones*, the forceps succeeded, and the child was alive—the sacrum obviously juttet.”

4. “Woman in hard labour for *ten* hours—child brought away with very moderate effort; it breathed a few times, and died—the catheter was required next day, after which the urine passed properly—perineum slightly torn—there was want of room about the brim.”

5. “Forceps brought the head among the bones, but could do no more—perforator employed—forceps used with too much resolution—nothing said respecting the size of the pelvis.”

6. “Forceps *not well applied*, obliged to be altered—child lived—mother recovered—nothing about size of the pelvis.”

7. “The patient’s sixth child, all the former had been delivered by instruments—forceps could not succeed, *though very resolute force was used*—perforator employed—woman recovered.”

8. “Woman had been in strong labour several hours—no unusual force used—child died—mother recovered.”

9. “Forehead presentation, easily exchanged for the vertex—slight narrowing at the brim—instruments *slipped* once—child, a girl, brought away alive.”

10. Smart labour for eight or ten hours—head extracted with considerable effort—child dead. (Some doubt expressed, as in Case 4, as to where about the obstruction in the pelvis was situated.)”

11. “In pretty strong labour, at intervals, for two or three days—inflammation of abdomen seemed to be supervening—discharge from the vagina foetid—child extracted with effort, it made a few attempts to breathe, but died—*one blade of the forceps was bent*—abdominal inflammation came on, and the mother died—nothing said about the size of the pelvis.”

12. “Irregularity at the brim of the pelvis—*head brought down with resolute effort*—child torpid, but lived—perineum slightly lacerated—lever had been unsuccessfully used by another practitioner.”

13. “No mention of the duration of the labour, nor of the size of the pelvis—labour had *not* been violent—child was still-born, which seems to have surprised the practitioner—but it had not been long dead.”

14. “Face presentation, converted by the fingers to a vertex; sacrum juttet very much—*great efforts repeatedly made*, but in vain, to bring down the head—head opened and extracted with much difficulty—pulse quick—belly tender—patient twice bled and purged—she recovered.”

*Expulsion of the Membranes before the child.*—By Dr. M'Cowan.—Mrs. B., æt. 25; was delivered on the 17th December, 1848, of her second child. The head of the child presented, with the face directed to the left acetabulum, and was born in that position without making the usual turn to bring the occiput in front. The bag of membranes came away almost entire about two hours before the head was born. The bag contained a large quantity of liquor amnii, and was considerably larger than a child's head. It was rolled into a basin in order to be preserved, but female curiosity could not be restrained, and it was somewhat torn while Dr. M'Cowan was engaged with the mother.

*Peculiarity observed in the spontaneous expulsion of the child in an arm presentation.* By Dr. Simpson.—Since the subject of spontaneous evolution was discussed by the Society—(See *Journal*, May, 1847)—Dr. Simpson has seen one case of its occurrence. The patient was under the charge of a midwife. Mr. Alexander, who was called in, requested Dr. S. to see the case, with the view of turning the child. The mother had already borne four children. The present pregnancy had advanced to between the seventh and eighth month. When born, the child weighed 3lbs. 9oz., and measured seventeen inches and a half in length. The labour commenced at 8 a.m., but made very little progress till the afternoon. At 7 p.m., when Dr. S. arrived, the shoulder of the child was pressing deeply into the pelvis. The rectum seemed loaded; and Mr. Alexander and Dr. Simpson left the room for a short time, in order that the nurse might empty the bowel with an enema, before turning was attempted. On being recalled, they found the pains strong, and the *body* of the child beginning to press down through the pelvic brim—indicating the commencement of the usual process of spontaneous evolution. Dr. S. remarked that this peculiarity and change in the presentation had taken place during the ten or fifteen minutes they had left the patient: the fœtus had made a slight turn upon its long axis, so that the fœtus presented much more of the back, and less of the side than before, the shoulder still, however, maintaining its deep position in the cavity of the pelvis. The child's body came down, in other words, not with the spine or trunk bent and doubled laterally, but bent and doubled up in a great measure anteriorly. The anatomical structure of the spinal column admitted far more easily of this anterior flexion than of lateral flexion. Was this a common turn in the mechanism of spontaneous expulsion? If so, did the want of it delay or prevent the process

of spontaneous expulsion in some cases? And could it be imitated by art so as to allow the process to go on in appropriate cases? After being forced into this new position, the child was very quickly expelled by the natural efforts, and according to the common mechanism of spontaneous evolution. As usual, it was born dead.

*Transfusion in Hemorrhage.* By Dr. Weir.—Dr. Weir showed a new instrument for transfusing blood in cases of excessive hemorrhage. The instrument was provided with a very large cylinder, intended to contain at once the quantity of blood required to be injected.

Dr. Simpson stated that he had seen transfusion tried in three consultation cases, where the patients were dying from the results uterine hemorrhage. In a case last week to which he had been called by Dr. Purdie, the lady, who was infirm and jaundiced before delivery, kept well for an hour and a half after delivery. Sudden hemorrhage then supervened, which was speedily and entirely arrested by Dr. Purdie, but the patient was left by it in a collapsed pulseless state, and was incapable of being rallied by the strong stimulants used. Dr. S. saw her about an hour subsequently, and injected into the basilic vein twelve ounces of a saline solution, like that used here in the last cholera epidemic. The solution roused the patient for a short time, but not much; and she remained three hours afterwards in the same sunk, collapsed state, and died without any renewal of the flooding. In another case, Dr. S. had seen the same practice followed, when the patient was quite moribund, with no result and no rallying. Three or four years ago, he was called to a case a few miles from Edinburgh, where he found the patient left in the same collapsed and pulseless state, after an early miscarriage, accompanied by much hemorrhage. In this as in the other two cases, the state of pulseless collapse, not capable of being affected by brandy and other stimulants, continued for hours after the hemorrhage was stopped, and before the patient died. A surgeon was called out of town, but failed in finding a vein large enough to inject. He had not seen pure blood transfused; but the result did not seem to promise much or any benefit from the injection of saline fluids, intended merely to fill and re-distend the vascular system.

*DISEASES OF FEMALES.—Urethritis in the Female.*—Dr. M'Clinck detailed the histories of two cases of urethritis in females. One of these patients was a lady in the fourth month of her twelfth pregnancy, who had been suffering from this affection of the urethra

for two months, and had tried a variety of means for its removal, prior to his seeing her. The other patient was a poor country-woman, who had given birth to five children, three of whom were removed by craniotomy, in consequence of a large osseosarcomatous tumour within the pelvis. The symptoms in both cases were nearly identical, and were as follows :—Intense burning pain during each act of micturition, accompanied with much straining and bearing down. There was no discharge from the vagina, nor any evidence of disease of this canal or of the uterus. The urine of each, examined in the ordinary way, seemed healthy and free from albumen. Looking at the meatus urinarius, the mucous membrane of the canal was seen to be in a highly vascular and swollen condition, so as to form a considerable tumour at the orifice. This when touched was exquisitely sensitive. Having satisfied himself as to the pathological state of the parts, he commenced the treatment. In the first case, he began by trying astringent local applications, such as alum, zinc, and lead washes; and these failing to produce any beneficial effect, anodyne lotions of various kinds were next used, but with no better result; lastly, he applied directly to the part a strong solution of lunar caustic, but neither did this bring about any improvement in her condition. It then occurred to Dr. M'Clintock to make a trial of copaiba, which we know exercises a very marked influence upon the mucous membranes generally. He commenced with three capsules of balsam in the day, and increased the number to four per diem. This treatment at once produced the most decided improvement; so that after she had taken eighteen capsules she was entirely freed from her torturing complaint.

In the second case the complaint was of six weeks' standing, and, without waiting to try the effects of any other remedies, he at once commenced the use of copaiba capsules in the manner just described, and with a like satisfactory result, as a perfect cure was established before she had finished the contents of the box. A subsequent examination of the urethra, showed that it had acquired its naturally healthy characters. In commenting upon these cases, Dr. M'Clintock very clearly pointed out how they differed in their symptoms and pathological nature, from gonorrhoea, from vascular tumour of the meatus urinarius, and from the thickening of the cellular tissue surrounding the urethra,—a disease first described by Sir C. M. Clarke. Lastly, he alluded to Dr. Ashwell's chapter on "Chronic Urethritis," in the last edition of his treatise on female complaints, which is the first work containing a description of it.



The extremely uncontrollable nature of the disease described by Dr. Ashwell, which almost set any treatment at defiance, inclined Dr. M'Clintock to entertain suspicions as to whether the cases he met with could have been of the same nature as his ; and yet that they really were instances of inflammation of the urethra he established beyond any manner of doubt. In order to reconcile these conflicting results, he could only suppose the form of the complaint seen by him was of a milder and more tractable nature than had come under Dr. Ashwell's care ; or else that the inflammation had been limited to a part of the canal only.

Up to the present time, both the above patients have continued in excellent health, and had no return of their truly painful malady.

*Use and abuse of the Speculum.*—A feeling against an indiscriminate but too common reliance on the speculum seems to be gaining strength, both in this country and in France ; and we only hope that, while the evils and improprieties connected with the abuse of this instrument are exposed and denounced, the current of professional opinion may not set in too strongly against its employment ; for in a large number of cases, it must be regarded as the only means through which a correct diagnosis can be obtained. M. Malgaigne, in a clinical lecture lately delivered, says : “ While admitting the use of the *toucher* and the speculum as aids to diagnosis, I must also state that they often lead to errors which, without them, might be avoided. A surgeon was consulted by a lady, whom, after examination, digitally and by the speculum, he treated for engorgement of the neck of the uterus. He assured her that the cauterization had cured the disease ; nevertheless she continued to suffer. The explanation was this : he had gone beyond the seat of that disease which was really annoying her. She had inflammation of the follicles of the urethra, whence arose the burning sensation (*cuisson*), and the shooting pain. I passed the solid nitrate of silver, on several occasions, over the affected part, and the pains were cured. Another patient, who likewise had been cauterized for ulceration of the cervix, came to me, complaining of fluor albus, pain, and a dragging sensation. I digitally examined this woman, standing, and found the cervix behind, and the body of the uterus in front. It was anteversion of the womb which caused the engorgement, the fluor albus, and the sympathetic pains. She had been examined when lying on her back, and in this way the anteversion had not been discovered ; but as there was redness of the cervix—the effect, and not the cause—ulceration

was diagnosed, and cauterized; the principal affection being neglected. Women who suffer from affections of the genital passages, always fancy that they have prolapsus, if they have consulted a midwife, and ulceration of the cervix, if they have been to a doctor. With this class of patients there is no other description of disease. Yet we know, from experience, that prolapsus is extremely rare. We must receive with reserve the reports of interested parties, both regarding prolapsus and ulceration of the cervix. The patient must be examined in the upright position, or a *croupion*, which is still better, if you wish to make evident a state of anteversion. When this has been made out, you may possibly find engorgement along with it; but bear in mind, that in every woman who has had children, the neck of the womb is twice as large as in a virgin. If the patient complain of a little pain, you are apt to mistake the natural for the morbid engorgement; and if you use the speculum in such a case—what do you discover? Why, if the woman have borne children, you find abrasions, redness, and such excoriations as you see within the nostrils of a child affected with coryza. These insignificant excoriations assume, in your prejudiced mind, the importance of ulcers; and, deceived by the speculum, the pain complained of, and the white discharge, you unhesitatingly cauterize. This is a department of therapeutics in which great reforms are required."—*London Journal of Medicine*.

*Case of spontaneous cure of Ovarian Dropsy.* By Professor Bennett of Edinburgh.—Anne Pyper, a servant, aged 25, was admitted into the *female* clinical ward of the Royal Infirmary, November 8, 1848. She had been delivered fourteen days previously of a male child in the Maternity Hospital; and, on inquiry, I find that the labour was a natural one, and presented nothing unusual. On the birth of the child, however, the abdomen still continued enlarged, and at first led to the suspicion that another foetus remained in the uterus. After a time the true nature of the case was rendered manifest, and a large swelling was detected, which was moveable to a certain extent, and presented all the characters of an encysted tumour of the left ovary.

When I first examined her in the Infirmary, I found the abdomen swollen to about the size of a woman's during the sixth or seventh month of pregnancy. The tumour extended from the epigastrium to the pubis, but bulged considerably towards the left side. Its surface was irregular, and two large nodules, each the size of a cocoæ nut, existed about its centre. It was tense and firm

to the feel, somewhat elastic, but no fluctuation could be detected. The tumour was firmly fixed, and the seat of constant pain, especially in the left lumbar region, which was increased by pressure, by lying on the right side, or on assuming the erect posture. The urine was of a slight yellow colour, and presented its normal characters. The digestive, respiratory, circulatory, nervous, and integumentary organs appeared to be healthy. She had observed the tumour seven months before her delivery, and it has gone on gradually increasing, and been somewhat painful from the first. Eight leeches were ordered to the most painful part of the abdomen.

For four days the patient remained in the same condition, the local pain, however, having been relieved by the leeches. On the 12th of November my attention was directed to the urine, which now presented a copious white deposit, occupying two-fifths of the jar, while the supernatant portion was of a light amber colour, and unusually viscid. The deposit was determined by the microscope to consist of pus, mingled with a few compound granular corpuscles. The clear portion was strongly coagulable by heat and nitric acid.

At first I imagined that the cyst had burst into the vagina, but the patient and nurse assured me that there was no discharge between the intervals of micturition, and that all the fluid came from the bladder.

The urine presented the same characters during the next three days; the amount discharged during the twenty-four hours being about three pints. On the 15th, I observed that the tumour had somewhat diminished in size, its hardness and tensility had disappeared, and distinct fluctuation was perceptible in it. A broad flannel roller was ordered to be applied firmly round the abdomen, and compression made by means of pasteboard, previously soaked and modelled to the abdominal surface.

From this time, the abdomen rapidly diminished in volume, whilst the amount of purulent viscous fluid discharged from the bladder varied from three to five pints in the twenty-four hours. The appetite and general health continued good; and she was ordered nutritious diet, with four ounces of wine daily. On the 23rd, the amount of pus contained in the urine was greatly lessened, and the clear portion presented only a slight haziness on the addition of nitric acid. On the 27th, the abdomen had regained its natural size, although a dense mass, evidently the collapsed ovarian sac, could readily be distinguished, occupying the left iliac and hypo-

chondriac regions. The urine now also was natural in quantity, and presented only a slight sediment, consisting, as shown by the microscope, of some crystals of oxalate of lime, and a few pus globules.

From this period she may be said to have recovered. She suffered occasionally from uneasy feelings on the left side, sometimes amounting to pain, which were relieved by the application of four leeches, followed by a small blister: one of the leech-bites ulcerated superficially, but soon healed up. She was dismissed on the 18th of December, expressing herself as being well in every respect, having been sitting up and running about the ward for the fortnight previous. The indurated mass in the left iliac region was greatly diminished in size, but still very perceptible to the feel, though not to the eye.

*Remarks.*—The history of this case can, I think, only lead to one conclusion—namely, that an ovarian encysted tumour was present on the left side; that the individual cysts had, if not altogether, at all events for the most part, broken down to form one large cavity; that the contents of this cavity had suppurated, and a fistulous opening formed either into the ureter or bladder (most probably the latter), through which the contained fluid was evacuated, permitting collapse of the sac and cure of the disease. The permanency of this cure will depend upon whether all the secondary cysts had been ruptured and were broken down before the fistulous opening took place. This is a point which it is impossible to ascertain with certainty; but a careful examination of the woman before she left the infirmary convinced me that no rounded nodules or cysts could anywhere be felt.

In this case the tumour was subjected to the gradually increasing and equable pressure of the pregnant uterus, and to its influence must, I think, be attributed the fortunate result and rapid breaking down of the secondary cysts. The ulceration into the bladder was probably determined by the direction the pressure had assumed in this case, and of course could not be imitated artificially.

There still only remain two methods of curing an ovarian dropsy by art—viz., by excision, and by pressure followed by puncture. The difficulty is to ascertain when the moment for making the puncture has arrived—in other words, when a multilocular is converted into a unilocular cyst. In the present state of the art, this is impossible; but as an exact indication of the difficulty is often the best preliminary in its removal, I do not despair of some day

seeing it completely conquered by the cultivators of rational medicine.—*Monthly Jour. of Med. Sciences.*

*There are many cases recorded of spontaneous cure of ovarian disease ; but amidst the great ambiguity in the diagnosis of such cases, it may be reasonably presumed that the spontaneous cures, so called, of ovarian disease never existed ; and these may be classed with cures of cancer, &c. The case above reported was no doubt ovarian, but not cured.—ED.*

MISCELLANEOUS.—*Dublin Obstetrical Society.*—Dr. Wilde read an interesting paper on the superstitions popular in Ireland, connected with obstetric practice. He referred to the opinion expressed by Dr. Montgomery at the opening meeting of the Society, that the advancement of midwifery as a science was proportional to the exaltation of civilization ; and he stated that this idea was borne out by the grossness of the practices which were current among the illiterate and ignorant of his countrymen. The learned author proceeded to describe some of the charms or philtres employed by peasant girls in the West of Ireland, for exciting the affection of those they loved. Some of these are of the most barbarous character, and manifestly of Pagan origin. For example, binding a piece of skin, torn from a recent corpse, round the thigh of the beloved, and removing it again without his knowledge. To effect this it is manifest that a state of anæsthesia must have been in the first instance produced. To effect abortion the means used are similar to those employed in other countries, but they are usually accompanied by a form of incantation. The Irish peasantry much dread the influence of charms in causing impotency. These charms are for the most part wrought by tying knots during the marriage ceremony, and repeating certain diabolical phrases. They are obviated by the married couple loosening the different parts of their dresses during or immediately after the ceremony, a process which is commonly pursued when the jealousy of a rejected lover is dreaded. Barrenness is occasionally sought after, and the means employed for obtaining it consist in drinking milk boiled on a grass mouse, or, in the case of a parturient woman, the after-birth is buried under an elder tree, and covered with a wooden bowl, to prevent her again conceiving. Dr. Wilde then recounted the innumerable charms and operations that are had recourse to, to shorten the time of labour and facilitate delivery. It is impossible, however, to allude to a tithe of the interesting superstitions collected by Dr. Wilde ; but we hope soon to see them in a complete and more enduring form.

**A SHORT SKETCH OF THE LIFE AND WRITINGS OF  
THE LATE JOSEPH CLARKE, M.D., DUBLIN.  
SHEWING THE RESULTS OF HIS PRIVATE PRACTICE,  
EXTENDING OVER FORTY-FOUR YEARS,  
INCLUDING 3847 LABOURS.—BY ROBERT COLLINS,  
M.D. LONDON: LONGMAN, BROWN, GREEN, & LONGMANS.  
8vo. pp. 88. 1849.**

This elegant memoir of one of the most esteemed of our British Accoucheurs is well worth the attention of the medical profession, not merely from the valuable results presented of private practice, but from the general character and private worth of Dr. Clarke's career as a professional man. It is our intention to notice particularly the results of practice, as being the most valuable to our readers. At some future period we may notice other parts of the work, which are highly interesting.

The number of cases recorded is 3847. Total Deaths, 22, or 1 in 175. Of these 22 deaths, 3 were from Peritonitis, or 1 in 1282 cases. From Phthisis, 5 cases, 4 of which were premature births. [We doubt much if these five should be included, as the death arose from none of the consequences of labour.]—ED.

From immediate Hemorrhage, only two cases, or, 1 to 1923½.

From shoulder presentations, two cases died within a few days of delivery.

From various causes ten deaths, as follows :—

1st. Case Twins, one head lessened, second foetus born alive, died eighth day.

2nd. Died hectic at the end of the month.

3rd. Paralysis on the sixth day and died on the tenth.

4th. Milk Fever on the third day, died on the thirteenth day.

5th. After Scarlatina, died on the fifth day.

6th. After excessive Diarrhoea and grief, died four hours after delivery.

7th. Attack of Dysentery, died at the end of the month.

8th. Died on the fourteenth day after apparent bilious fever.

9th. Laceration of Vagina, in consequence of an Hydrocephalic head, died fifty-one hours after.

10th. Defective Pelvis, laceration, time of death not stated.

Such are the particulars of the twenty-two deaths.

*Arm Presentations.*—Of 3816 single births, there were nine presentations of the arm. Of these four were premature, and three of the latter number were putrid.

In two cases of the nine, the foot came down with the arm. Five of the nine children were born alive.

Proportion of arm presentations in private practice was 1 in 347, whilst his hospital practice showed 1 in 410.

*Presentation of the Feet.*—In the 3816 single births, thirty-six presented by the feet, or 1 in 106; whilst in the hospital it was 1 to 129. Twenty-eight of the thirty-six were born alive; two still born, but not putrid, and six putrid. Of these thirty-six births twelve were premature.

*Presentation of the Breech.*—In 3816 births the breech presented in forty-nine, or 1 in 78; in the hospital it was 1 in 68. Of these forty-nine presentations twelve were premature, of which twelve seven were born alive, five of these twelve were still born and putrid. In two cases the heads were hydrocephalic.

*Presentation of the Placenta.*—In nine cases the placenta presented—the hand introduced and child turned, except in one case, where the feet already presented above the placenta. Seven of the nine children were born alive. Of the two still born, one was at the full period and one premature.

Nine placental presentations in 3847 births is a large proportion. In hospital practice, out of 16,414 *eleven* presented the placenta in Dr. Collins' practice; and Dr. Clarke's hospital practice showed only *four* out of 10,387 births. Thus, the proportion in hospital is 1 in 1492, in private practice, 1 in 427.

*Accidental Hemorrhage.*—Four cases presented; in three membranes ruptured, hemorrhage checked, and labour succeeded. The fourth case arose from fright in the eighth month, the child was turned and born alive.

Of the four cases three were born alive—three were premature births. Private practice showed the proportion 1 in 962; in the hospital, 1 in 1262.

*Hemorrhage previous or subsequent to the delivery of the Placenta and placental retention.*

*Retention of Placenta* occurred in twenty-five cases.—Seven of these was the same individual who, out of ten births, required manual assistance seven times for its removal.

In seven of the twenty-five cases there was hemorrhage.

In one of the twenty-five the head was lessened.

In two the children were putrid.

Only one of twenty five was premature.

In seven of the twenty-five retention was owing to hour-glass contractions. All the mothers recovered favourably. *Not one death* from subsequent hemorrhage, which speaks highly for Dr. Clarke's practical ability.

*Twin Births* occurred thirty-one times, or 1 in 124: whilst in the hospital it was 1 in 68, a widely different result. In twelve of the thirty-one cases, twelve had two boys each time,—twelve had two girls each,—six had one of each sex,—and in one the sex was not noted. In nine cases both children presented naturally; in nine one presentation was natural, the other foetus footling; in five cases one foetus presented naturally, the other by the breech; in three the first presented naturally, the second preternaturally, particulars not stated; in one (premature) the presentation not stated; and in one case both were expelled before the Doctor arrived.

In one case both were still born; in two the first was alive, and the second still born. In one the head was lessened, and was putrid, whilst the second was born alive. In twenty-six of the thirty-one cases, both children were born alive, that is 1 in 12; the hospital on the contrary was 1 in 8. Five of the thirty-one cases were premature, two at the sixth and three at the eighth month, or 1 in 6; in the hospital it shewed 1 in 9. In three cases the placenta of the child first born was expelled before the birth of the second.

*Presentation of the Face* occurred forty times, and in thirty-three of the forty the face was turned to the pubes. Five children were still born, four of the five presented face to pubis.

*Prolapsed Funis* occurred six times; in three out of the six cases the child was still born, and in three out of the six the head presented. In the three remaining, one the head with hand, one the feet, and one face to pubis.

*Convulsions* occurred in two cases; in one three fits took place before delivery. In the second one fit only, and that subsequent to delivery.

*Laborious and protracted Labours* occurred in eighteen cases. In twelve the head was lessened; in two the pelvis was under three inches.

*Instrumental Deliveries.*—Under all circumstances, occurred only as 1 in 298. In 3847 labours, the forceps was only used *once*.

In 3816 single births, forty-two were still born at the full period, or 1 in 91. All deaths as before stated, twenty-two, or 1 in 175.



Of the twenty-two deaths eight only were the result of child-birth, strictly speaking, or 1 in 477, and not one death from laborious or protracted labour.

*Still-Born Children.*—In 3816 cases, one hundred and twenty were still-born, or 1 in 32. Of the one hundred and twenty, forty-two at full period, nineteen boys and twenty-three girls.

*Premature Children* amounted to one hundred and seventy-eight, including living and dead.

Premature births are more frequent in private than in hospital practice.

*GENERALIZATIONS.*—Of 3847, 3816 were,—

Single births, Boys, 1949.

Girls, 1840.

Sex not noted, 27.

*Incidental Occurrences.*—Hydrocephalic children 6 cases.

Spina Bifida .. .. 3 „

Hare Lip .. .. 2 „

Distortion left foot .. 1 „

Hand missing .. 1 „

Ossification of Funis 1 „

Two ladies had been married five years, and one eight before pregnancy. One menstruated last on October 22nd—was not delivered until August 26th. One went seven days beyond nine months from the time she left her husband. One had the Liq. Amnii discharged *one month and three days before delivery*; another, *three weeks*—children born alive. One female had ten children, first and last alive, and the eight intermediate putrid and premature. One had five living and many putrid. One had her first child alive, then five putrid ones premature. One had a first child at forty-two years of age.

Dr. Clarke's hospital results are already before the public. We may at some future time notice many other interesting particulars contained in this work; at present we shall content ourselves with the above points of interest, they will be esteemed by all as the faithful record of a most excellent accoucheur, and put together for no other purpose and with no other view than to benefit the profession of which he was so valuable a member. Instrumental interference was not his hobby, and his results show that protraction of labour is not so great an evil as sometimes we are led to believe.

**PRACTICAL OBSTETRICS.**—*On the use of Chloroform in Surgery and Midwifery.*—In a paper published in the *London Monthly Journal*, Dr. Snow has given a brief account of his experience respecting anæsthetic agents.

In comparing chloroform with ether, he states that either is capable of obviating the pain of the most severe operations, but that chloroform possesses certain advantages. In the reductions of dislocations and herniæ, he prefers ether.

Contrary to the opinion generally entertained, Dr. Snow does not consider its use contra-indicated in the disease of the chest, unless of an active kind; neither is it so dangerous in diseases of the heart as has been supposed.\* He, however, admits that in such cases it should be administered with caution.

Young subjects are most readily influenced, and immunity of pain may be accomplished without perfect coma. The greatest debility is no impediment to its use.

Dr. Snow objects to the plan of giving chloroform on a handkerchief. The stomach should not contain much food for fear of vomiting.

The greater number of patients become quietly insensible without resistance; some became excited while losing their consciousness, but by continuing the inhalation, this excitement is overcome. When voluntary motion or talking is no longer observed, it is desirable to examine the eye. If it be turned up, it is an indication of sufficient narcotism for ordinary purposes. When the margin of the eyelid can be touched without causing the orbicularis to contract, any operation will be painless. As the effect of the vapour is cumulative, Dr. Snow advises the free admission of air just previous to the production of insensibility.

The patient after a severe operation under chloroform, is in a calmer and more cheerful state of mind than if he had suffered the pain; and after amputation he seldom experiences nervous starting of the stump.

In midwifery, the dose of chloroform required is less than in surgical operations. If given with the handkerchief not more than fifteen drops should be used at a time.† Dr. Snow dissents from Dr. Simpson in this particular, the latter advising two or three drachms to begin with. The patient should be allowed to inhale a little at the commencement of each pain, but the insensibility need

\* We are decidedly of an opposite opinion.—ED.

† We think this dose absurd.—ED.

not be complete. Dr. Snow believes, that with management no retardation of the labour will occur, but, on the contrary, that it will be hastened by the relaxation of the soft parts which is produced.

*To promote uterine contraction.*—Drs. Mackale, Skinner, &c., speak highly of the power of ice to re-produce labour-pains when suspended. It is pounded and swallowed freely. Dr. Mackale says, “During two years I have had frequent opportunities of observing its effects, and in no instance have I been disappointed in its action. In cases where labour-pains have been suspended for twelve or twenty-four hours, they have been renewed promptly and efficiently. In cases of inevitable abortion, when the uterine contractions are feeble and inefficient, and hemorrhage considerable, I regard it as invaluable.”—*Trans. of American Med. Asso.*

*Rigidity of the Os Uteri during Labour.*—Dr. Scanzoni carefully examined the conditions of the os and cervix, in the latter months of pregnancy—believes that constriction, which sometimes declares itself in the first stage of labour, is due to rigidity of the upper orifice of the uterine neck, and not the lower, which is generally sufficiently dilatable. Instead of the treatment usually recommended, viz., bleeding, antimony, belladonna, frictions, &c., he advises a continual douche of warm water upon the os and cervix, directed by means of an appropriate instrument.—*Union Méd.*

*Pneumatic Tractor.*—Mr. James, of Exeter, lays claim to the suggestion of this novel machine as well as Dr. Simpson. Which of the two ought to stand first, we have no occasion to dwell upon; unquestionably Dr. Simpson was the first to apply it to practice, but how Mr. James can lay any claim to the mere suggestion in 1848, when it was so fully supposed by Dr. Arnott in 1832, we are at a loss to conceive; to claim originality of suggestion under such circumstances is absurdly ridiculous.

Dr. Mitchell, of Nottingham, however, makes a still more serious claim to the Air Tractor, and as a student in Dr. Simpson's class, intimates a breach of equity between teacher and pupil. It is difficult to conceive how Prof. Simpson could have been ignorant of Dr. Mitchell's efforts, still it must be fairly stated that Dr. Mitchell suggests no more than Dr. Arnott did long ago,—and the first application still belongs to Professor Simpson. As to the breach of etiquette we leave that for others to decide, maintaining still, that the instrument is not worth squabbling for.

*Abortion artificially produced by the warm Uterine Douche.*—Dr. Grenser, of Dresden, recommends, in Schmidt's *Jahrbuche*, page

232, the warm douche applied directly to the uterus as an efficient means of bringing on premature labour, when indicated. He gives a case thirty-three years of age, of a narrow pelvis; abortion had on a previous occasion been brought on by plugging the vagina. In the present instance the douche was resorted to in the eighth month, and was applied seven times in three days, and by means of a small canula. The water is to be at the temperature of 34° R., equal to 104° F., and the force equal to a fall of eight feet. It is important that the canula be introduced well into the vagina, and that the removal of any obstructions be carefully attended to. In the case related, the parts became thoroughly relaxed, and parturition ran the normal course; the lochia was fairly established, and the mother did well. The child required turning, but was born alive, and lived nearly twenty-four hours.—*Med. Times, April 7.*

*Caput Succedaneum fatally mistaken for Presenting Membranes.*—In cases of head presentation the skin is sometimes so gathered up and swollen as to be like the membranes before they have broken. To this the term *caput succedaneum* has been applied; and a case is related in the *Gaz. Med. de Paris*, in which it led to a fatal termination. Professor Dubois recommends a quill should be used to rupture the membranes.

We give a place to the above, not so much as a warning, but to show that such things have occurred; the case would not often be mistaken in England, and, even should it be, we do not find that a *scalpel* is necessary to rupture membranes, the finger nails generally sufficing for the purpose, and that oftener than justifiable.

*DISEASES OF FEMALES.—Vomiting of Pregnancy.* By Drs. W. Hoffman, and F. Löffler.—In the first of the papers cited, the author recommends the exhibition of small doses of the tincture of nux vomica immediately after each attack of vomiting. A case of several months' duration is narrated, where every conceivable means was tried unsuccessfully. Decided improvement was experienced a few hours from the time the nux vomica was begun, and next day the vomiting had entirely ceased. Rademacher speaks in strong terms of the value of this treatment. In the second paper, by Dr. L. the external application of a watery solution of the extract of belladonna is recommended.—[This is indeed a very efficacious mode of treating obstinate vomiting, from whatever cause it may arise. Though it occasionally fails to give relief, yet it frequently succeeds when other means have been unsuccessful. It was first proposed by Bretonneau.]—*Monthly Journal.*

*Periods of Marriage, Pregnancy, and Childbirth.*—Curious sta-



tistics have been published by Mr. Metcalf, concerning the periods of life when marriages, pregnancies, and childbirth take place in the United States. Out of 568 women who furnished him with data, 90 had married from 14 to 17 years of age: 257, from 18 to 21; 153, from 22 to 25; 51, from 26 to 29; 13, from 30 to 33; and four, from 35 to 41. Thus, for every period of four years, the probabilities of marriage in America bear the following proportions: 16 per cent. for the first; 45 for the second; 27 for the third; 9 for the fourth; two and three-tenths for the fifth; and 0.7 per cent. for the sixth. In other words, a woman who is not married at 14 or 18, for instance, has a chance of 45 or 16 per cent. that she will wed within the four following years. Mr. Metcalf has also endeavoured to ascertain the proportion of deliveries at the different ages of women. Out of 591 females, there were 28 who were delivered from 14 to 18 years of age: 120, from 18 to 22; 126, from 22 to 26, and from 26 to 30; 78, from 30 to 34; 68, from 34 to 38; 33, from 38 to 42; and 12, from 42 to 46. Thus it appears that a woman who marries at the beginning of one of the quadrannual periods mentioned, has chances to become pregnant, which, for each period, may be represented in the following manner: 5 per cent. in the first; 20 per cent. in the second; 21 in the third and fourth; 14 in the fifth; 12 in the sixth; 5 in the seventh; and 2 in the eighth. As to the time of year which yields the most births, it has been found that March is the most prolific, and April the most barren month. Deliveries by day and by night are in the proportions of 46 per cent. to 54 per cent., thus corroborating the popular belief that more deliveries take place at night than in the day-time. —*Lancet*, March 31.

DISEASES OF CHILDREN. — *Spina Bifida*. — Dr. Brainerd has treated this affection by injecting a grain of iodide of potass and half a grain of soda into the tumour, without evacuating the fluid in which it eventually becomes dissolved. As far as may be judged by a single case, this plan is attended by little or no danger. — *Rev. Med. Chir.*

*Variola in the Fœtus*. — Dr. Simpson exhibited drawings of two cases of variola occurring in the fœtus, which had fallen under his observation in Edinburgh. In both cases the fœtus had been expelled *dead*, and both mothers had *modified* small-pox. Dr. Simpson entertained some doubts (theoretical) regarding the propriety of vaccinating a woman while pregnant, believing it possible that the mother might be *vaccinated*, and the fœtus *thereby* inoculated with variola. — *Medical Times*.

**PRACTICAL REMARKS ON THE USE OF THE SPECULUM  
IN THE TREATMENT OF DISEASES OF FEMALES.**

—By T. R. MITCHELL, M.D., MASTER OF SOUTH EASTERN  
LYING-IN-HOSPITAL, AND LECTURER ON MIDWIFERY IN THE  
DUBLIN SCHOOL OF MEDICINE, 8vo. PP. 83, PLATES, CO-  
LOURED. FANNIN AND CO., DUBLIN; LONGMAN AND CO.,  
LONDON; MACLACHLAN AND STEWART, EDINBURGH, 1849.

As a practical demonstration of the use to which the Vaginal Speculum may be applied, the little work before us is well worth the attentive perusal of not only the beginners of professional study, (to whom it is specially directed by the author), but we venture to assert that those advanced in experience, not having leisure to examine more elaborate works, will find abundant matter in this short but well-written monograph to occupy their serious consideration.

It has rarely been our lot to find so much useful matter in so limited a number of pages.—The work is illustrated by coloured plates.

We quite agree with the author that the introduction of the speculum into practice and its superiority to the uterine sound, (to which we have many objections), is of equal importance with the stethoscope; indeed the indiscriminate use of either is to be reprehended. Without any parade of historical, controversial, or theoretical writing, the author at once proceeds to the question practically, and confirms his views by well selected cases. The certainty of the species of disease developed by the speculum and uterine sound combined, gives an immense advantage over the guessing system of former days, and does away with the frequent probability of treating diseases which never existed, at the same time neglecting those which actually do exist. "*How many an unfortunate girl has been laid on the reclining board for spinal disease, when in reality she is labouring under spinal irritation.*"

Dr. Mitchell uses Ricord's speculum, and the four bladed one with side slits to enable it to be formed into a two bladed instrument, and occasionally the conical glass tube. His instructions for the introduction of the instrument are directed with every regard to modesty, condemning every unnecessary exposure. In virgins the author states that he should hesitate to use the speculum if the

hymen was perfect, but if disease of the virgin uterus is of some standing the hymen is often destroyed. This point is illustrated by an interesting case.

Some remarks are made on the Uterine Sound introduced to British practice by Professor Simpson of Edinburgh, although it has been said to be the invention of Velpeau. The pessary of Dr. Simpson then comes in for its share of observation, of which the author has had *no experience*, he however quotes the opinion of Dr. Ashwell, who condemns it in no very courteous terms. We know the instrument fails in some cases, and we know of some two or three other practitioners who have been disappointed by its use.

As to the applications in general use, the author speaks favourably of the nitrate of silver, potass fusa, acid nitrate of mercury, and particularly the solution of gun cotton, which the author was the first to use in uterine diseases, and speaks highly of the efficacy of the latter object.

The whole number of pages in the work being but 82, of large print, it would be doing an injustice to the author to quote lengthily from it; and as the price is very moderate, and therefore likely to be within the reach of *the many*, we see no necessity for so doing. There is an excellent chapter on Prolapsus Uteri et Urethræ, and another on Ulceration and Induration of the Os and Cervix Uteri, Congestion of the same, &c., concluding with some remarks on Sterility and Ulceration of the Cervix during pregnancy. The plans of treatment advocated are most judicious; indeed there is no page of the volume (small as it is) but may be read with infinite advantage by the experienced practitioner. We intend referring to some parts of the work shortly; in the mean time we cordially recommend it to our readers as a work worthy of their notice.

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ON SOME OF THE CAUSES OF STERILITY, REMEDI-  
 ABLE BY MECHANICAL TREATMENT. — BY G. T.  
 GREAM, Esq., SURGEON, LONDON. PART I., 1849.

As this work is only in progress, we shall abstain from noticing until completed. We must honestly confess, however, so far the appearance of the work impresses us with the fear that it is not for the profession exclusively; if we are right in our conjecture we regret it, as the author possesses abilities which we think should be devoted to purely professional undertakings.

THE MISAPPLICATION OF ANÆSTHESIA IN CHILD-BIRTH EXEMPLIFIED BY FACTS.—BY G. T. GREAM, Esq., SURGEON, LONDON. 8vo. PP. 72. JNO. CHURCHILL. 1849.

This is an able controversial pamphlet, on the subject of Anæsthetic Practice, but more particularly in reference to childbirth. The author, from the first introduction of these agents has taken a very prominent part against the practice adopted so enthusiastically by Professor Simpson and his followers. Some allowance must be made to both parties for their zeal, which may have been pushed a little too far on both sides. Mr. Gream enters on his *exposé* with no small power and determination, and anatomizes with a keen scalpel all the arguments in favour of the practice, producing a large amount of evidence, from numerous and high authorities, against its use. Mr. Gream rests his opposition on the following points. *First degree*, drunkenness; *Second degree*, lasciviousness, calumny, causes of lascivious dreams, &c.; *Third degree*, convulsions; *Fourth degree*, deaths after operations and after delivery. Time and lengthened experience must decide many of these questions. We have always condemned indiscriminate anæsthesia, but we hope to be understood fairly, viz., that it is a boon in very many surgical and in some midwifery cases, of which we cannot but think highly. We certainly do not approve of its application in simply natural labour: much has been said of woman's *agonies*, under such circumstances, but with all our experience we never saw any more *agony* about *natural labour* than what most women bear *most heroically*, and thousands of others would gladly do so that are debarred from it, and as the punishment (if it be so) is one sought after, not accidental, we do think there should be no desire on the part of the women, or encouragement from others, to shirk it, unless some extraordinary circumstance renders it advisable to obliterate the consciousness of extreme pain.

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RETROSPECT FOR APRIL, 1849.

On Saturday, May 4th, Dr. Tyler Smith exhibited to the Medical Society an instrument for ascertaining the existence, or non-existence, of a passage along the fallopian tube. It is a fine tube,



curved, to adapt itself to the axis of the pelvis, bent suddenly at the extreme end either to the right or left, according to the side which is to be examined. Through the tube passes a whalebone stiletto, about two inches longer than the canula, which is intended to pass into and along the fallopian tube. Dr. Tyler states there is no difficulty in finding the fallopian orifice of the uterine cavity, on account of the triangular cavity of the uterus, but acknowledges that great mischief may arise from careless usage of the instrument.

[We see no great difficulty in managing such an instrument, if experienced; at the same time we are inclined to think that there is too much of that style of practice at the present day, and it is questionable if such attempts may not often produce the very evils they seek to remedy.

Suppose the fallopian passage obliterated at its uterine extremity, we think the probing might *produce mischief* if none previously existed, and *if such was present* at the time, how much such an operation would *aggravate it*. When we know that many practitioners have been far from adroit in passing the catheter into the bladder, *even in the female, more so in the male*, we are certain that the fallopian explorer in the hands of the profession as a mass will be a very mischievous instrument.—ED.]

*Case of Pessary impacted within the Vagina for two years.*—Mr. Leech gives the following case of impacted oval boxwood pessary within the vagina for the space of two years, with the singular and simple method employed for its removal, after every other means had been resorted to. As it possesses a peculiar claim for publication, we will briefly give the particulars.

Mrs. W., aged 60, married, but without children, about two years ago consulted a practising empiric, with symptoms of general debility and tenesmus during urination, for which he advised the use of a pessary, and prevailed upon her to allow him to introduce one, which he did with some difficulty. Her existing symptoms became subsequently much aggravated, with additional weight, heat, pain, and uneasiness about the loins and vagina, with a constant dribbling away of urine. She applied again to her adviser and requested him to remove the pessary. He tried to do so by adopting different expedients, but after fruitless efforts for the space of two hours, he gave up the task, and coolly assured her she need be under no apprehension, as the pessary would in a short time rot away, without the slightest injury to her. She still consoled herself with the be-

lief that time would remove what her adviser could not. However, her general health became more alarming, and among other practitioners, she consulted my brother, Mr. R. H. Leach of Cowlshaw, near Oldham, who carefully examined the vagina, and found a pessary so firmly wedged therein that he could not remove it with his fingers. The other medical gentlemen whom she consulted prior to my brother, had likewise failed to relieve her of it.

On the 1st of September, I went with my brother, armed with every little invention calculated to dislodge such a foreign body from the vagina, and found the case exactly as he had described it; the woman had a care-worn countenance, was dejected in spirits, cough, disordered digestion, incontinence of urine, much emaciation of body, and general debility. The sphincter ani was paralysed, most probably from long-continued pressure of a large foreign body upon the muscular nerve supplying it with motion. The mucous folds of the rectum were relaxed and congested. The pessary could be distinctly felt through the rectum in the vagina. The perineum was rigid, and though I could move the pessary within the vagina, the rigid perineum prevented an extraction. The lower orifice of the vagina was very small. The woman was now placed upon her left side and her shoulders slightly elevated; the vagina was well lubricated with lard. Two fingers of the left hand were passed into the rectum behind the pessary, and traction thereby made, whilst the index finger of the right hand, which was with difficulty passed within the vagina behind the pessary, acted as a second traction. In this way the pessary could be brought to the lower part of the vagina, but the small outer orifice and rigid perineum would not allow its broad diameter to pass. Scoops, a small vectis, and various other means were then tried without success. Perforation or crushing were now the only expedients, and being distant some miles from town, we thought it probable that the best perforator would be the joiner's gimlet; and as the pessary was hollow and made of box wood, perforating with a gimlet would most probably fracture the sphere of the pessary into different segments, which would then be readily removed by a forceps. My brother now brought the pessary as low as he could in the vagina by using traction with two fingers, introduced behind the pessary within the rectum, and steadily held it fixed against the perineum and outer orifices of the vagina with his right hand, protecting the soft parts by means of a towel, whilst I perforated the pessary with a gimlet.

On the groove of the gimlet, behind the worm, passing within the hollow of the pessary, its walls fractured into three segments, the parts of which were now readily brought away by the forceps, and the operation completed.

We found that granulations had formed on the cervix uteri, which had passed within the opening usually left for a pessary tape, and were torn away with the extraction, and found within the hollow of the pessary after extraction. The woman has since done very well, and nearly recovered her wonted strength and spirits.

Such cases as the one I have described are rarely met with in practice. I have only heard of two, one was in the practice of Mr. Jesse, of Frodsham, who is a practical and very intelligent surgeon, and the other case was in Liverpool. I am not aware the gimlet has been tried before in such a case, but as it effectually answered my purpose, after more complicated instruments had failed, I can with confidence recommend it to the profession, as an instrument always near at hand, and calculated to realize the best wishes of the operator in such a case.—*Prov. Med. & Surg. Journal.*

*On the Cause of the Preponderance of Male Children.—By Dr. G. Emerson.*—An attentive inspection of the very extensive reports made in several of the most enlightened countries of Europe, has proved to us most conclusively, that every influence operating in a community to maintain a high state of physical health and energy, leads to an increase in the proportion of male births; whilst on the contrary, every agency, whether moral or physical, the effect of which may be to reduce the forces of organic life, will diminish such preponderance. In many parts of Europe, where the general population is over-worked and under-fed, the excess of male births is very small. Throughout Prussia and France, the excess of male legitimate births is usually under six per cent. and in England about five per cent. for the kingdom at large. In Philadelphia, where the condition of the general population is so favourable, the male births generally exceed the female about seven per cent., whilst in the rural districts of the United States, and especially in those most newly settled, the predominance of male children is much greater.

An examination of the returns made for many years in France, Belgium, and England, embracing millions of births, shews everywhere a greater excess of males born in the rural population than in cities. Here then are causes specified and always existing, which exert a decided influence in determining the proportions of the sexes

born. When, however, we come to estimate the influence exerted upon large masses of people subjected to a pestilence singularly calculated to exhaust the physical energies, we view the subject as if placed in the focus of a magnifier. The depressing forces ordinarily existing we find capable of diminishing the males one or two per cent., whilst those exerted by a severe epidemic, like that experienced in Paris and Philadelphia, have brought down the ordinary male excess of about six or seven per cent. to only one per cent. When the estimate is made so as to include the births in Philadelphia, for the months of April and May, 1833, the conceptions of which took place in July and August, 1832, as well as the illegitimate births of Paris, we actually see the usual male excess annihilated and substituted by a female preponderance.

To exhibit this subject in a still stronger light, let us take the sum of male excess, and instead of comparing it with the whole amount of male births, consider it by itself. Suppose the sum of 400 to represent the excess of males in 10,000 city births, and 600 the excess of males in the same number of country births. The excess of males in the first-named districts would, therefore, be 33 per cent., or one-third less than that in the more rural districts, and this under circumstances ordinarily existing. But when the agencies exerted by the prevalence of a severe epidemic, like the cholera, are brought to bear upon the population, the male excess sinks about 80 per cent. below the ordinary average.

I believe it will be found that the extensive prevalence of every severe zymotic epidemic or endemic disease; every occurrence, in fact, which exerts, either directly or indirectly, a decided depressing effect upon a community, will be indicated on the record of births by a conspicuous reduction in the proportion of males.

In our table showing the births in Philadelphia, there is a perceptible falling off in the preponderance of males, for the years 1837 and 1838. This may, perhaps, be ascribed to the destruction of business and embarrassment so generally experienced, and which commenced in 1836. The intense anxiety and great distress which prevailed, and was kept up for some years after the financial crisis, must certainly have operated strongly upon a large commercial and manufacturing community, and, like all other depressing influences, tended, by indirect means, to diminish the energies of organic life.

When a pestilence or violent epidemic passes through a community, it is generally the most feeble portion of the population that is swept off. The births soon after will exhibit an increase in

the amount of males, because the parents will be those endowed with vital energies above the ordinary average—a proof of which is their exemption, or recovery, from disease.

We think there is strong reason to believe that the institution of polygamy grew out of a preponderance in the amount of female population, induced, perhaps, by a scanty supply of food, or from the use of a description of diet not calculated to maintain a high condition of physical energy. Polygamy once established as a common usage, must tend to foster itself.

In conclusion, it appears to us that the proportions of the sexes at birth are, to a considerable extent, subject to circumstances more or less under human control; and that all measures tending to lessen disease, and promote the welfare and comfort of a population, while they serve immediately to increase the capacities for profitable labour, tend also to promote the multiplication of the sex supplying the main physical power.—*American Journal of Med. Science.*

*Corroding Ulcer of the Uterus.*—In the *Prov. Med. and Surg. Journal*, Dr. Ballard, in some clinical illustrations, gives a case of corroding ulcer of the uterus, with remarks. First, as to its being connected with cancer, Those who advocate its cancerous character account for the *absence of tumour* by the cancerous deposit being removed by ulceration as fast as it is formed. On the contrary, it has been argued that analogy shews *lupus*, and other diseases, with examples of deeply spreading ulcers, altogether distinct from cancer. It is evident, therefore, unless the cancerous tissue can be ascertained, its presence cannot be judged by the character and position alone. In the case adduced, four points are to be noted, 1st, *Considerable inflammation*; 2nd, *Foreign deposit was present* near the surface of the uterine ulcer; 3rd, *Cells, similar to cancerous growths*, were discovered by the microscope; 4th, *Nutrition had been depraved*. Arguments cannot rest fairly on an individual case, and what one person might esteem a cancerous cell another might deny. Still I am inclined to think the *four points* alluded to, warrant the case *not of a cancerous origin*. The 1st and 4th positions require consideration. Whether or not, originally, cancerous ulcerations had not previous inflammation much to do with it? Might not this be independent of any malignant deposit? Had not defective nutrition great influence in determining ulcerative absorption as the result of inflammation? Ulcerations and vesicular elevations of the mucous membrane of the gullet, "I do not recollect," says Dr. Ballard, "having noticed to be preceded, as in this instance, by a vesicular sort of eruption on the membrane."

**A PRACTICAL TREATISE ON INFLAMMATION OF THE UTERUS AND ITS APPENDAGES, AND ON ULCERATION AND INDURATION OF THE NECK OF THE UTERUS.—By JAS. H. BENNETT, M.D., &c. &c. &c. SECOND EDITION. 8vo. PP. 528. LONDON: CHURCHILL. 1849.**

Dr. Bennett's truly excellent work has been for some time out of print; we hail, therefore, a new edition of it with considerable pleasure. The work is an admirable one, and exhibits a splendid proof of what can be effected by persevering industry, and devoted attention to any subject of particular inquiry, and the more so when those investigations are made by persons of great ability, and in every way calculated to elucidate the matter. Such is the work before us. It has another peculiarity; it is not a mere reprint of the former edition, with a more modern date (as is the case with many new works), but truly, and in fact, a *new work*, comprising an immense fund of additional experience, reading, and reflection. As the author justly observes, it will be found to contain, not only a faithful history of the various pathological changes produced by inflammation in the uterus, and its annexed organs in the different phases of life, but also an accurate analysis of the influence exercised by inflammation in the production of the various morbid conditions of the uterine system, hitherto described and treated as functional. We are of opinion, also, that the author has succeeded fully in demonstrating the important fact *that inflammation is the key stone to uterine pathology, and that unless the phenomena which it occasions be recognised and taken into consideration all is doubt, obscurity, and deception.*

The large experience, clinical and otherwise, and more accurate means of investigation, of the author, are in every way worthy and deserving of careful and serious consideration, since the facts arrived at by the author are opposed to the current opinions of the profession at large on this subject. "*So thoroughly,*" says the author "*subversive, indeed, are they of all existing views respecting uterine disease, that nothing but the facility with which they can be tested could inspire me with the hope that they will, ere long, be universally acknowledged and adopted.*"

In Dr. Bennett's work the reader will find a large amount of new and really original information, particularly in reference to chronic



metritis, internal metritis, and the diseases with which the latter has been confounded ; of inflammation and abscess of the lateral ligaments in the non-puerperal state (a subject entirely new) ; of inflammation and ulceration in the cavity of the cervix ; of inflammation and ulceration in the virgin ; in the pregnant and puerperal condition ; in the aged ; and in connexion with polypus and tumours ; and lastly, as to the section and diagnosis of cancer, all deduced from clinical experience.

We feel certain, from a careful examination of this work, together with our knowledge of the former labours of the author, that a perusal of its pages will lead to great improvement in the treatment of the class of diseases to which its investigations are devoted. Every page is replete with valuable information, and whoever will be at the trouble to read will certainly derive benefit from it. We therefore cordially recommend it to our readers.

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**ANÆSTHESIA, OR THE EMPLOYMENT OF CHLOROFORM AND ETHER IN SURGERY AND MIDWIFERY.**—By J. Y. SIMPSON, M.D., F.R.S.E., &c. &c. 8vo. pp. 248. PHILADELPHIA : LINDSAY & BLAKISTON. 1849.

This work comprises the substance of all that has hitherto been advanced by Professor Simpson, in various pamphlets, issued at various times, now revised and reprinted in a large handsome volume, which does credit to its printer and publisher. As we have already frequently noticed the claims of Professor Simpson in the order the pamphlets have been issued, it will be unnecessary again to notice them as a whole. We have at all times given the author credit for the most untiring industry and indefatigable research in whatever he undertakes ; and knowing his zeal and enthusiasm for the advancement of medical science, it has often given us pain when we have felt it necessary to be of a different opinion. We give Dr. Simpson all the credit of chloroform discovery,—we acknowledge its applicability in a great number of cases,—we hail it as a boon to suffering humanity,—in fact all that can be claimed for it we fully and without prejudice allow, and we think no person so well qualified to defend its position as the one who discovered its application (viz., Dr. Simpson), but we do not look upon it as the *universal panacea*, or to be applicable in all cases ; we reserve our right

of opinion on this matter. When circumstances call for its use we would use it, but we do not think that this should induce us to use it indiscriminately. The work before us is a faithful collection of all that has been said in favour of its application, and if the reader will peruse it, and Drs. Merriman and Montgomery's pamphlets, with that of Mr. Gream, he may fairly be entitled to form an opinion for himself.

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## RETROSPECT FOR MAY, 1849.

*Extra-Uterine Fætation.*—Mr. Thomas, in the *Medical Times*, gives the following case:—Jane A., twenty-seven years of age, single, reeler in a cotton-mill, was admitted into the Infirmary on the 22nd of March, under the care of Dr. Lonsdale. She looked chlorotic, had never enjoyed very good health; though always able to follow her occupation up to last Saturday, when her present illness commenced with pain in the abdomen, nausea, and purging; these symptoms still continue, though less severe. At her admission she complained of pain in the lower part of the belly, increased upon pressure; but there was no visible enlargement nor swelling; the urine was natural, and passed without inconvenience; her appetite was pretty good, tongue was slightly furred, and the bowels, from the commencement, relaxed; she had not menstruated for six weeks, though, before that period she was quite regular. She could not attribute her illness to any cause except, perhaps, exposure to cold. She was ordered saline medicines, common diet, and rest in bed.

March 23.—She felt much better, and took her usual diet with relish; to continue the same.

March 24.—She was remarkably well until about nine o'clock at night, when, as she was sitting by the fire in the ward, she grew sick and faint. She was put to bed, had some wine and other cordials, and soon rallied. About ten, whilst in bed, she was attacked with violent pain in the lower part of the belly, followed by violent attacks of retching and syncope. She was ordered brandy, and a drachm dose of liq. opii sed., and mustard cataplasm to the belly. At eleven o'clock the pain in the abdomen was at intervals most excruciating; there was nearly constant sickness and fainting, followed by so much depression as to threaten immediate death. The



abdomen, especially the hypogastric region, was extremely tender to the touch; but there was no sensible enlargement; symptoms, like those just noted, recurred, though at longer intervals, until about twelve at noon, (on Sunday,) when she expired, conscious almost to the last. The treatment adopted was mustard cataplasms to the abdomen, and subsequently acet. lyttæ to the hypogastrium; internally ammonia and brandy.

Here I may make this remark, that as soon as the urgent symptoms set in, we surmised the probable nature of the malady, and the appearances likely to be found after death. The character and situation of the abdominal pain, occurring at intervals, followed by nausea, vomiting, and almost fatal syncope, were such as might arise from excessive loss of blood; this, in the absence of symptoms like those which generally precede and follow perforation of the stomach or intestines, lead us to draw in this case a correct inference.

The body was examined thirty hours after death; it was extremely pale; the mammæ had undergone no change; abdomen pretty full of fluid; percussion dull all over, with the exception of the hypogastric region. On opening the peritoneal cavity, it was found to contain about six pints of fluid blood; a large clot filled the brim of the pelvis, and, amidst the coagula, we found a foetus about three months old. The coagula, which were pretty firmly attached to the peritoneum, having been removed, the ovuline membranes and the placenta were found, between the layers of the right broad ligament, forming a tumour about the size of a hen's egg. The uterus was laid open posteriorly; its cavity was slightly enlarged, and lined with decidua; there were no off-shoots of decidua into the fallopian tubes. The os and cervix uteri had undergone scarcely any change; the glands of Naboth were very prominent. A rent an inch and a half long was found on the posterior aspect of the tumour, through which the foetus had escaped. The coverings of the ovum at this part (seemingly peritoneum only) being extremely delicate, the placenta was doubtless the source of the fatal hæmorrhage. A reticulated membrane, like the decidua uteri, was found lining the cavity which lodged the ovum; this membrane was easily separated from the subjacent parts. The right ovary was larger and softer than its fellow, and when cut into, its upper segment presented an oval shaped body, having a central cavity, surrounded by a broad fibrinous layer, and around this a well defined vascular zone; in other words, what is called a "true corpus luteum." Externally, there were two irregular cicatrices, in one of which the aperture had not quite healed.

The left ovary was externally puckered, and presented, when cut into, a gristly appearance, and contained a false corpus luteum. There was no undue vascularity about the fallopian tubes,—an ordinary sized probe could be introduced through the distal end for about two inches. The end of the probe being exposed with the knife, it was then seen that the tube had undergone a little contraction; a finer probe passed readily along the left to the uterus, and the right to the placental tufts.

The following account was received after the poor woman's death, from the landlady of the house, where she was a lodger. It is interesting, only as giving a probable date to the lesion. She had always borne a good character for steadiness and industry; for the past two months she had suffered much from stomach complaint; she used to be so poorly in the morning that she could take no breakfast before going to her work; she grew better as the day advanced, and relished her tea and coffee at mid-day. On Saturday, March 17, she went to her work as usual, and, in the evening she went out for a walk in company with other young women. On her return she was attacked with griping pains in the belly, sickness, fainting, and great inclination to go to stool. With difficulty her friends managed to get her home. She went to bed immediately, becoming very faint and sick. She took some whiskey toddy, which relieved her, but she passed a very restless night.

March 18.—Complained of much pain in the abdomen, and fainted as soon as she made an attempt to walk about the room.

March 19.—Was much better; took her meals; had no fainting fits, though she sat up.

March 20.—Felt very sick and languid; inclined to faint upon any exercise.

March 22.—Admitted into the infirmary.

*Iodine in Congestion and Erosion of the Cervix Uteri.*—Dr. Churchill of Dublin, states, that after the elaborate work of Dr. Bennett, and the excellent paper of Dr. Ivory Kennedy, it would be superfluous for him to enter into a description of congestion and erosion of the cervix uteri. He quite agreed with those writers as to its being much more frequent than was heretofore believed, and, also, that it is neither easily detected nor easily cured without the use of the speculum. At the same time, he thinks it neither necessary nor becoming to propose an examination with this instrument in every case of vaginal discharge; a degree of delicacy and discrimination should always be exercised. This is particularly

necessary with nervous women. The author has known irremediable mischief result from neglecting this consideration. Again, if it be possible to avoid it, he should consider it wrong to propose an internal examination to an unmarried female. In accordance with these views, whenever he is consulted for a whitish or yellowish vaginal discharge, or for leucorrhœa, Dr. Churchill always makes an attempt to cure it by general means, such as blisters to the sacrum, balsam of copaiba, ergot of rye, &c., with local baths of cold water or astringents. Many cases are thus cured; but if he fail, he thinks it fair to assume that there is either congestion or erosion, requiring other local treatment, and in the majority of cases he has found this to be so. The usual application is nitrate of silver, acid nitrate of mercury, nitric acid, chloride of zinc, all of which he has repeatedly tried with great benefit; but it occurred to him (Dr. Churchill) that caustic iodine would probably answer better than any of these singly, inasmuch as it possesses sufficiently strong caustic properties, and, in addition would be likely to act beneficially in reducing the enlarged cervix. The preparation Dr. Churchill employs is of the following strength:—℥j. Iodinii, ʒij. Potassæ hydriodatis, ʒij. Aquæ distillatæ, ʒij. Spiritus vini. ℞. and, after four or five years' trial, he can truly say that he has found it the best application for congestion, erosion, or superficial ulceration, of all that he has tried. Dr. Churchill usually commences with a single application of nitric acid, or the acid nitrate of mercury, and then, after a few days, he paints the entire cervix with the iodine. This must be repeated once or twice a week, but not oftener, for whenever he has attempted its more frequent use he has found the uterine irritation rather to increase than diminish; and this will probably explain why these trifling complaints take so long a time to cure. Dr. Churchill had seldom succeeded in less than two months if the congestion was considerable, and many cases have required a much longer time. The application occasions no pain at all, unless the orifice of the vagina should be touched by the caustic, which may happen if it be applied too profusely. In one case the patient complained of a metallic taste in her mouth, in five minutes or less after each operation. After one or two applications the cervix will generally be found to have diminished in volume, to have lost its tenderness, and the eroded surface to have lessened in extent, and to have assumed a more healthy appearance. Dr. Churchill strongly recommends that the application of the iodine should not cease abruptly, but first be diminished in frequency, then left off, and *resumed if*, as is very common, any of the symptoms return.

*Double Uterus: Superfoetation.* — A female, native of Modena, previously mother of six children, became pregnant for the seventh time in 1817. Nothing unusual was observed, with the exception that the uterus appeared to be unequally distended, a furrow being perceptible along the median line. On the 15th February, 1817, she was delivered of a male infant at full term, and well developed. The placenta was expelled naturally, and the woman recovered her usual strength, but it was remarked that one half of the abdomen was still enlarged, and the movements of a foetus could be distinctly ascertained. The patient continued in excellent health until March 14th, just a month, at which time labour ensued again, and she was a second time delivered of a male infant, living and well formed. In 1822 she became pregnant again and bore a child now living.

Various explanations were given of that extraordinary case, and amongst others it was considered as a case of superfoetation, with double uterus, by M. Bignoli. The justness of this opinion was verified last year by the death of the patient from apoplexy. On examination, the uterus was found to be double, with a single cervix. The preparation is preserved in the Hospital at Modena.—*Encyclograph Méd.*, Fev. 1849.

*On the employment of Cold Douches to the Uterus.* — M. Fleury communicated a memoir on this subject to the Académie des Sciences. His observations admit of the following summary:—

1. Cold douches will not cure uterine ulceration directly.
  2. They are capable of inducing a revolution of engorgement and hypertrophy of the uterine neck, however chronic and rebellious to treatment they may be.
  3. In favouring the revolution of the hypertrophied uterine tissue, cold douches assist materially in causing cicatrization of ulceration.
  4. The cold douch will also restore several of the displacements of the womb, for which mechanical contrivances have been required, and becomes in this manner a means of removing sterility.
  5. They, by giving tone to the uterus, and to the system in general, prove a prophylactic against abortion.
  6. They are the best remedies for pruritus of the vulva and vagina.
- Gazette Médicale de Paris*, Mars 11, 1849.

*Atmospheric Pessaries.*—Our continental neighbours are bent, as well as our friends beyond the Tweed, to render atmospheric air subservient to uterine manipulations. M. Garcil lately presented to the Academy of Sciences of Paris, a pessary made of caoutchouc, of about an inch in diameter, which, by insufflation, may be made

to reach a diameter of three inches.—*Lancet*. [This absurd plan, like all the old class of pessaries, only prevents the walls of the vagina ever becoming of natural dimensions.—*Ed.*]

*Treatment of Hooping Cough by Coffee*.—Dr. Jules Gurzot, of Argenteuil, has lately published in the *Union Médicale de Paris*, his experience in the treatment of hooping-cough, by coffee. He asserts that coffee, taken hot, and sweetened with sugar, cures, in the space of from two to four days, the most marked and obstinate cases of hooping-cough. To a child under two years of age, he gives, after each meal, a teaspoonful; under four years, a desert spoonful; above that age a table-spoonful. He combines with this animal food, in the form of roasted meats, minced if the child is too young to masticate, little milk, no vegetables, fruits, or sweets. He tells us, that he conceives coffee to be a specific in hooping-cough. (For our own parts, we strongly recommend the use of alum in this troublesome disorder.—*Med. Times*.)

*Horny Growth attached to the Vulva*.—M. Vaudge relates the case of a female, aged 53, who was the subject of continual and severe pruritus vulvæ. She had, in addition, perceived for some time, a hardness between the labia, which gave her great pain, and interfered materially with her walking. On examination, a large round horny substance, resembling a corn, was found embedded in the mucous membrane separating the labia major from the nymphæ. It was moveable, and was excised without difficulty, when the pruritus ceased.—*Gazette Méd.*, 7 Avril.

*Abnormal Disposition of Parts in a Fœtus*.—In one of the late sittings of the Société Médicale d'Emulation, of Paris, M. Depaul presented the preparation of a fœtus, born before its time, in which the following anomalies were discovered:—The abdomen was enormously large, and this circumstance was owing to the distention of the bladder, which contained a great quantity of liquid, and was divided into three pouches communicating with each other, one being in the median line, and the others, respectively lateral. It looked as if this trilocular disposition was produced by a double hernia of the mucous membrane, through the muscular fibres of the hypertrophied vesicular parietes. The urethra was likewise obliterated at about a third of an inch from the meatus. The anus was imperforated, and the large intestine terminated in the bladder, with a pretty large aperture, through which its contents passed into that receptacle, which was found full of meconium and urine. The two kidneys were adhering to one another, and there was but one ureter,

which opened in the left pouch of the bladder. One of the feet of this child had but two toes. The amniotic fluid had been very scanty.

*On Absorption of the Placenta.*—Supposing the practitioner fails to remove the placenta, what becomes of it? A most interesting question, upon which Dr. Broers has lately thrown some light. Is it absorbed? Dr. Broers examines in detail the opinions of authors inclined to adopt this view of the question, and especially those of Nægele, of Heidelberg. On the other side, he quotes Madame Boivin, who, contending strongly against it, asserts that Nægele is an inaccurate observer. Finally, he completes his historic sketch, by pointing out certain timid writers who never decide upon any subject, who are always apprehensive that they compromise their name, doubt every thing, and whose chief characteristic is indecision. Dr. Broers is of opinion that the placenta retained in the uterus, is not absorbed but converted into moles, and he gives several drawings of such conversions. He concludes by observing that time will alone determine the question, but that it is not less true that there must be no small perversion of understanding in order to adopt the theory of absorption.—*Med. Times.*

*Royal Maternity Charity.*—On Tuesday last the Anniversary Dinner of this Institution took place at the London Tavern, Lord Robert Grosvenor in the chair. This Charity, it was stated, had now existed a century, and had administered relief to more than 400,000 married women. The Chairman adverted to the benefits this Institution conferred on the poor, by its allowing a large number of midwives being instructed there, “whose services, under ordinary circumstances, were more acceptable and beneficial to the poorer classes than those of Surgeons.” [His Lordship has certainly been misled by some one. Poor women, even *under ordinary circumstances*, do not prefer midwives because their services are *more beneficial* than the surgeons, but rather because the midwife's fee is much lower than the accoucheur's. We should like for his Lordship to have stated in what respect midwives' services are more beneficial than those of the medical profession.—Ed. *Med. Times.*]

*Case of Twins, born at an interval of twenty-one days.*—A woman, 35 years of age, was confined on the night of the 30th March, 1848. The placenta came away without difficulty. The size of the abdomen remained very considerable; the lochia did not flow, and, nevertheless, the surgeon did not conceive the possibility of another

child. Dr. Prival, of Bédarrioux, was called in, and at once ascertained the presence of a second child. The one already born was full-sized, healthy, and took the breast with avidity. The mother would not remain in bed; she arose and occupied herself with her usual household cares. Twenty-one days after the birth of the first child, labour-pains again came on, and another child was born, as strong and healthy as the first.—*Union Médicale*, May 17th, 1849.

*Sugar an Anti-aphrodisiac.*—M. Cæsar Provençal, a physician in the South of France, mentions, in a pamphlet of his, that sugar is a better and perhaps quicker anti-aphrodisiac than camphor. According to him, large doses of sugar, looked upon as an article of food, would repair the debility consequent on sexual excesses, and, considered as a therapeutic agent, would prevent such excesses.—*Lancet*.

*Conviction for Inoculating with Small-Pox.*—Matthew Symes was tried before Lord Denman for the manslaughter of Samuel Horre, he inoculating the deceased for the small-pox. The prisoner was convicted. It appeared that the prisoner had committed this unlawful act in ignorance of the law which prohibited it, and also was suffering imprisonment under the statute. For these reasons (said the judge) he would receive only a nominal punishment for this very grave offence, for such it most assuredly was, since by inoculating one person, the lives of thousands of persons might be sacrificed. His lordship then sentenced the prisoner to two days' imprisonment.—*Exeter Gazette*. [The clause that made inoculation with the virus of small-pox a penal offence was introduced into the Vaccination Act by Mr. Wakley. It was completely a novel feature in legislation, and the author of it has had ample reason to be satisfied with the results of his endeavours. A check has been put by it to the extension of a fatal and loathsome disease in this country. Mr. Farr, probably the highest authority on such a subject, is of opinion that the enactment in question has had, and must have the effect, not only of saving the lives of thousands of our fellow-creatures, but of preventing probably, the painful and distressing disfigurement of a far greater number.]—*Lancet*.

*Medical Jurisprudence.*—*New Sign that a Child has been Born Alive.*—Dr. Virchow has announced that the presence of uric acid in the kidney, which may be detected with the naked eye, is conclusive of a child having been born alive. His conclusions are—

1. That uric acid deposit is never found in children born dead, or who have died within forty-eight hours after birth.

2. That the deposit does not occur before forty-eight hours after birth.

3. That it is not generally found later than the twentieth day after birth.—*Medical Times*, Jan. 20th.

*Benefits of Vaccination. — Spread of Small Pox in Angouleme.*—For some time past a very serious epidemic of small-pox has spread in the above commune. The municipal authorities sent Dr. Gigon to investigate the circumstances, and advise on the means of arresting the epidemic. The following facts have been ascertained :—The epidemic reigned for two or three months ; fifty-two persons out of a population of four hundred were attacked ; seven died, and thirty were still under treatment : *none of those who died had been vaccinated.* It is impossible to cite a more striking instance of the protective influence of vaccination. It is true that some who had been previously vaccinated were attacked by small-pox, but in all these cases the disease was mild, and left no traces.—*Gazette Médicale.*

*Intra-Vaginal Respiration recommended in some cases of Parturition where the Child's life is in danger from pressure on the Cord.*—By M. McCulloch, M.D.—I beg through the medium of the *British American Journal* to make known a new mode of practice by which the amount of infant mortality will be lessened in many cases in which death from pressure on the cord is otherwise inevitable. If we take the average of French, German, and British practice, we find by the most authentic statistics that danger to the life of the child from this cause occurs in breech presentations once in fifty-three labours ; in presentations of the superior extremities, after turning, once in 261, and where the cord presents once in 245 cases. Thus we have in 649 labours twelve presentations of the breech, seven of the inferior extremities, two and a half of the superior extremities, and two and a half of the cord, occasioning a loss of life at birth of about two per cent. of all children born. This great mortality I think I have succeeded in diminishing in my own practice in three footling cases within the last eight months, by enabling the child to breathe while the head was still within the cavity of the pelvis after the pulsation in the cord had been several minutes extinct. And this novel state of existence was maintained by keeping the child's mouth open with my finger, and the perineum expanded to allow air to have free access into the vagina. In future I shall endeavour to accomplish this object with greater certainty by introducing into the mouth the end of the largest sized gum-elastic male catheter, with several perforations in it, and



continue as before to allow as much air as possible to approach the face and nostrils. In all cases of malposition in which the practice I have suggested becomes desirable, the chance of respiration being established will be greater if the means are used before the circulation becomes feeble in the umbilical vessels; and if the child is born alive in the absence of pulsation in them, it may be fairly conceded that we have been successful in our efforts to preserve life. Some cases may occur where a small sized male catheter, with a suitable curve, might be used with advantage as a tracheal pipe. I need scarcely add that the infant's body should be kept warm, gentle traction employed, and all the other ordinary means of exciting contraction of the uterus used until the delivery is completed.

If the practice I have here recommended is found to answer in other hands as it has in my own, something will have been achieved in obstetric science, in circumstances where the most skilful have hitherto frequently had to lament their inability to save the child's life.

*Measles in the Sandwich Islands.*—Several thousands of persons have died at the Sandwich Islands of measles; and the mortality continued great at the date of the last advices.—*Med. Times.*

*The gestures of Infants.*—Convulsions are indicated by the thumb and fingers being drawn into the palms of the hands, the toes towards the soles of the feet, whilst the back part of the hands and feet are puffed and tumed. The head being drawn rigidly backwards, or one arm drawn firmly to the side, or one leg drawn upwards, are signs of convulsive affections.—*Winslow.*

*The Cry,* if loud and free, indicates health. Perpetual crying generally results from pain seated somewhere. Inflammatory pains seated in the head, chest, or belly, check crying. A husky cry attends exhaustion.—*Winslow.*

*Midwifery.—Tincture of Cannabis Indica in Menorrhagia.*—Dr. Churchill has spoken strongly in favour of the powers of Indian hemp in sanguineous uterine discharges. He finds that in simple menorrhagia, the discharge is often stayed in twenty-four hours by five drops of the tincture three times a day. In other cases, where the discharge returns too frequently, it has also proved useful. He has also tried it with advantage in threatened abortion and in the hæmorrhage from uterine cancer. He does not explain the *modus operandi*.—*Medical Gazette, May 19th.*

HISTORY OF FOUR CASES  
OF  
ECLAMPSIA NUTANS,  
OR THE  
"SALAAM" CONVULSIONS OF INFANCY,  
WITH  
SUGGESTIONS AS TO ITS ORIGIN AND  
FUTURE TREATMENT.

BY  
WILLIAM NEWNHAM ESQ.,  
FARNHAM, SURREY.

WRITTEN EXPRESSLY FOR THE BRITISH RECORD OF OBSTETRIC  
MEDICINE, &c., EDITED BY  
CHARLES CLAY, M.D., MANCHESTER.

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WILLIAM IRWIN, 89, OLDHAM STREET,  
AND 12, LIVERPOOL STREET, LONDON.

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Year	Number of cases	Number of deaths
1990	1,000	100
1991	1,200	120
1992	1,500	150
1993	1,800	180
1994	2,000	200
1995	2,200	220
1996	2,500	250
1997	2,800	280
1998	3,000	300
1999	3,200	320
2000	3,500	350
2001	3,800	380
2002	4,000	400
2003	4,200	420
2004	4,500	450
2005	4,800	480
2006	5,000	500
2007	5,200	520
2008	5,500	550
2009	5,800	580
2010	6,000	600
2011	6,200	620
2012	6,500	650
2013	6,800	680
2014	7,000	700
2015	7,200	720
2016	7,500	750
2017	7,800	780
2018	8,000	800
2019	8,200	820
2020	8,500	850
2021	8,800	880
2022	9,000	900
2023	9,200	920
2024	9,500	950
2025	9,800	980
2026	10,000	1,000
2027	10,200	1,020
2028	10,500	1,050
2029	10,800	1,080
2030	11,000	1,100
2031	11,200	1,120
2032	11,500	1,150
2033	11,800	1,180
2034	12,000	1,200
2035	12,200	1,220
2036	12,500	1,250
2037	12,800	1,280
2038	13,000	1,300
2039	13,200	1,320
2040	13,500	1,350
2041	13,800	1,380
2042	14,000	1,400
2043	14,200	1,420
2044	14,500	1,450
2045	14,800	1,480
2046	15,000	1,500
2047	15,200	1,520
2048	15,500	1,550
2049	15,800	1,580
2050	16,000	1,600
2051	16,200	1,620
2052	16,500	1,650
2053	16,800	1,680
2054	17,000	1,700
2055	17,200	1,720
2056	17,500	1,750
2057	17,800	1,780
2058	18,000	1,800
2059	18,200	1,820
2060	18,500	1,850
2061	18,800	1,880
2062	19,000	1,900
2063	19,200	1,920
2064	19,500	1,950
2065	19,800	1,980
2066	20,000	2,000
2067	20,200	2,020
2068	20,500	2,050
2069	20,800	2,080
2070	21,000	2,100
2071	21,200	2,120
2072	21,500	2,150
2073	21,800	2,180
2074	22,000	2,200
2075	22,200	2,220
2076	22,500	2,250
2077	22,800	2,280
2078	23,000	2,300
2079	23,200	2,320
2080	23,500	2,350
2081	23,800	2,380
2082	24,000	2,400
2083	24,200	2,420
2084	24,500	2,450
2085	24,800	2,480
2086	25,000	2,500
2087	25,200	2,520
2088	25,500	2,550
2089	25,800	2,580
2090	26,000	2,600
2091	26,200	2,620
2092	26,500	2,650
2093	26,800	2,680

There is a growing body of research that suggests that the use of technology in the classroom can enhance student learning and engagement. This research is based on the idea that technology can provide students with access to a wide range of resources and tools that can help them to learn more effectively. For example, students can use technology to access online resources, such as videos and interactive simulations, which can help them to understand complex concepts more easily. Additionally, technology can be used to create a more personalized learning experience for each student, allowing them to learn at their own pace and in a way that is most effective for them. This research also suggests that technology can be used to increase student motivation and engagement, as students are more likely to be interested in learning when they are using technology. Overall, the research suggests that technology can be a valuable tool for enhancing student learning and engagement in the classroom.

It is not clear that the above-mentioned differences in the two groups are due to the different levels of the two groups. The differences in the two groups are due to the different levels of the two groups. The differences in the two groups are due to the different levels of the two groups.

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## ESSAY ON ECLAMPSIA.

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IMPERFECT as is confessedly the following sketch—not only as regards the history of the disorder in question, but still more as affording a plausible rationale of the symptoms, or a hopeful method of cure—still I venture to believe that it is the *most* perfect history that can be obtained of a malady hitherto undescribed, except by a short narrative of the beginning of the case No. 2, which appeared in the *Lancet* of Feb. 13th, 1841, and described that case only during the first twelve months of life; its subsequent history down to the present hour, is only to be found in the following pages.

If the malady has hitherto been almost undescribed, it is quite certain that it is as ill understood, and that, as yet, its treatment has been almost entirely empirical. My hope is, that by placing the following cases in juxta-position, something like a consistent history of the usual commencement, progress, and termination, of this disordered action may be established—that the attention may be awakened to what is confessedly a very rare form of disorder—and that, ultimately, some rational method of relief may be discovered.

That the malady in question must be very important, may be gathered from its terrific results. It will be seen that of the four cases related, two have terminated in idiocy, in the destruction of all the powers and privileges of man—in that living death which is far more painful to friends than the positive extinction of life; that in the third, the same state of impaired intellect had occurred, and would have terminated probably in complete idiocy, had not the life been most mercifully cut short by another malady; and that in only one out of the four cases was cerebral power at all re-adjusted, and that only with great difficulty, and never returning to its pristine vigour. If then the consequences of this disordered condition be so awfully terrific, how important does it become that it should engage our best attention, and secure our most diligent observation.

It is worthy of remark that in all the cases narrated or alluded

to; the little sufferers were in the middle, and, for the most part, in the patrician ranks of life. I am not prepared to say that this is other than a mere accidental coincidence, or that the disease may not frequently occur amongst the poorer classes and be overlooked, or terminate early in convulsions and the loss of life, in consequence of neglecting to attend to the early symptoms; but at all events, it is a fact on which the attention should rest, and the inquiry should be instituted whether in the more artificial state of society, and the more cultivated brain, and the brain originally formed for *higher action*, but with comparatively less physical force, there may not be causes operating to overturn its integrity, and quench its more brilliant light in the gloomy darkness of idiocy—causes from which the simple and less developed brain may be happily exempt. All-bounteous Nature does very generally compensate the evil of one kind by good of another kind; happiness and misery are very equally distributed, although in different classes of society they may proceed from very dissimilar causes.

The pathognomonic symptom by which this malady is recognised as distinct from all others, is that peculiar bowing forward of the head, and sometimes of the body, which has induced Sir Charles Clarke to denominate this affection "the Salaam" convulsion, by which term it has also been described by the late Mr. West in the *Lancet*, and has been distinguished by Dr. Marshall Hall in a recent work on the nervous system. But it has always appeared to me that this was a very objectionable nomenclature; first, because it is so thoroughly unscientific, and secondly, because it does not, in its primary meaning, convey any idea of disorder at all, much less of that fearfully desolating agency which it operates upon the development and manifestation of mind. The formal bowing of oriental custom and the fearful involuntary nodding of this malady have nothing in common, for the latter action is never even slow; it is rapid—frightfully and fearfully rapid.

To place this malady in the same category with its nearest allies, and to proclaim its connexion with epilepsy, into which it will be noticed that it has a tendency to pass, I would propose to substitute *ECLAMPSIA NUTANS* for the "Salaam;" and although it may be objected that the derivation of this term is opposed to such application, and that it seems to be equivalent to "*lucus a non lucendo*," yet since custom and time have sanctioned its application to many forms of epilepsy, it appears to be both just to fact, and in accordance with our present scientific knowledge, to consider

this disorder as a congener with epilepsy, and to define its specific peculiarity by the characteristic *astans*; at any rate, if not perfect, the latter term is liable to far fewer objections than the unfortunate "Salaam."

The rarity of this affection is sufficiently shewn by the facts that of those who were consulted on the case No. 1, Sir Charles Clarke had seen but three instances in the course of his practice up to that time—1839; that Dr. Locock had seen but one case previously, and that Sir Astley Cooper had not even seen one; while in the case No. 3, of the many learned persons who had been consulted in this country and on the continent, but one had ever seen a similar affection till he came under the care of Dr. Locock. Subsequently to this period, the cases No. 2 and 4 were presented to Sir Charles Clarke; but even these would form so small a section of infantile disease in his large and long practice, that it must still be considered even by him as a very rare malady. Little is known of the termination of the cases alluded to as having occurred previously to 1839; their final history has either faded from memory or has never been known—with two exceptions, *one* afterwards alluded to in a communication from Dr Locock as having partially recovered, and one other of Sir Charles Clarke's, where the *health was recovered, but the patient remained idiotic.*

Of the cases about to be narrated, it is right to state that No. 1 was my own patient from the beginning to the end, and was closely watched by me, especially from the interest attaching to its peculiarity, and from the great affection I felt for the little patient;—that the details of the case No. 2 were furnished by Mrs. West, whose admirable journal now lies before me;—that I am indebted to the kindness of my friend, Dr. Locock, for the sketch of No. 3; and that I am equally obliged to a highly esteemed patient of my own, living in this neighbourhood, for the portrait, drawn from memory, of No. 4—his own dear child.

It may be said, perhaps, by some sceptical persons, that these cases should have been authenticated by names. To this I reply, that my own statement should be a sufficient voucher for their authenticity, and that I cannot envy the feelings, nor approve the judgment, of him who would so trench upon the delicacies of mental constitution as to seek to proclaim to the world sorrows which are most equanimously borne when shrouded by the veil of retiring sympathy.

~~the case of Miss L.,~~ *et. 18 months.* My attention was first called to the state of my little patient on the first of January, 1839; on this previous day, a *heavy and peculiar look about the eyes* had been noticed, and which continued in a greater or less degree throughout the progress of this affection. From the belief that her stomach was the cause of this oppression, she had taken on the previous night, at bed-time, a dose of calomel. Up to this date there had been no observation of any similar state; and the process of dentition had gone on favourably.

On the 1st of January occurred this peculiar nodding of the head, which happened thrice on that day; this bowing rapidly increased till there were several attacks during each twenty-four hours; and *generally two*, of a more aggravated kind, one upon first waking after her night's sleep, and the other upon equally awaking from her morning nap. During these attacks, which consisted in a forcible bowing forward of the body, repeated in rapid succession, *seventy, eighty, a hundred, and upon one occasion, a hundred and forty times*, she appeared to suffer considerably; other muscles of the body (chiefly flexors) were thrown into involuntary contraction—she became agitated—the pulse was quickened—and she was left languid and disposed to sleep, rather, I believe, from *exhaustion* than from any well-defined epileptic tendency. During these paroxysms, she very constantly raised her left arm to the corresponding side of the head.

About the middle of March, it was observed that she had lost considerable power of the *right arm*, which as well as the *right leg*, became ultimately paralytic. By the middle of April, she had ceased to be able to crawl, or move herself at all; and her countenance showed *cerebral distress*. This, as well as the other symptoms, became gradually aggravated, till the latter end of May, at which time (on the 26th) it was observed that she got off for her morning sleep with difficulty; she awoke several times with violent screaming, and contraction of the whole body, and the usual attack which followed *this morning sleep* came on with great contraction of various and antagonist muscles, the head being first drawn backwards, and then violently bowed down to the feet, which were also drawn up towards the body, so as to contract it into the form of a bow: she then fell again into uneasy slumbers, awaking frequently on sursant, and with much convulsive action of the flexor muscles, so that the hands and feet were obliged to be sedulously watched.

At this time also, there was sluggishness of the bowels, and a high degree of febrile action, at least, when I saw her about 5 p.m. Although her sleep had been so uneasy, she had taken her dinner, and had been for her customary airing, but had not long been out before the attack, which usually followed sleep, came on with violent contractions of the whole frame, and on this occasion she nodded one hundred and forty-two times, of which she appeared quite unconscious, and she afterwards dozed for about six hours, awaking at intervals with starting, and being much agitated during her sleep. In the course of the following night she slept little, but on the morning of the 27th she fell into a deep, heavy, comatose sleep, which continued for some hours. On the 29th this attack was repeated, but was not so strong, although there was a look of great distress about the countenance: there was also a torpid state of the bowels, but great irritability of the bladder. From this date, my little patient began to recover: the attacks were entirely suspended till the 21st of June, and the general health was greatly improved. From the 21st of June till the 9th of July, there were again slight bowings of the head, but without contraction of the limbs. On the 9th of July, she, for the first time since April, again crawled forwards: she had before this, however, made several awkward attempts to move backwards, and she seemed to be gaining power. From the 9th of July, the noddings returned, with the interval of a week, for three successive weeks; and on the 9th of August, 220 days from the commencement, she experienced her last attack, during which she nodded twenty-one times. Very frequently the bowels were acted upon during the attacks. Throughout the whole of this long period, it was manifest that intellectually she had made no progress; and when three years old, though evidently intelligent, yet it was equally clear that the brain had not been well nourished and developed: she was, to say the least, a very backward child, and the manifestations of mind appeared harsher than of a child under two years of age. At this time, I find in my notes the expression of a belief that this cerebral development would be ultimately good, for she had recovered her health; the paralysis was entirely removed, and she was as lively and active as could be wished, for a child very much crippled by disease, and this prognosis has been realised; she early showed a love of music, which was cultivated, as well as a fondness for pictures; every thing which wealth could procure, or the fondest affection



could devise, was adopted for her benefit; and, as she was younger than herself, was selected from the educated class of society to be her entire companion; and the blessing of Heaven has descended, as it always does, upon principled and untiring efforts for the good of the invalid; there has been gradual and steady progress, and although to a watchful friend, acquainted with her history, the traces of this fearfully devastating influence upon the nutrition of the brain are still discernible, yet to one unacquainted with this history she would pass as a very nice, though somewhat backward, and retiring girl. Happily therefore as this case has terminated, there is still discoverable the injurious influence upon the intellectual brain, which is especially marked in the other instances of malady to be hereafter narrated.

The history of the treatment has been purposely reserved to this place, in order that the progress of the one and the other might be exhibited uninterruptedly.

When I first saw my little patient she had taken *opercient medicine*, and was considerably depressed; on that day, therefore, she was ordered a mixture, with *sal volatile*. On the third of January, under the impression of the near alliance of the malady to *chorea*, zinc was prescribed for her, and on the 10th a small blister to the nape of the neck. Since, however, the affection continued and increased, and was certainly novel and inexplicable, it was resolved to consult Dr. Locock, and for this purpose I accompanied the patient to town on the 14th of January. Calomel and Rhubarb every fourth night were prescribed for her, and the carbonate of iron in gradually augmented doses three times a day, to which were added on the 22nd some Tincture of Henbane, and Tincture of Castor.

Since, however, no progress had been made, but rather the symptoms had become aggravated, it was resolved to add Sir Charles Clarke to the consultation, and, on the 11th of February, I again accompanied my patient to town, when it was resolved to continue the calomel and rhubarb, and to give the compound steel mixture.

No marked benefit accruing, and the paralytic state of the right side having become more marked, another consultation with Dr. Locock and Sir Charles Clarke took place on the 28th of March. On this occasion, the calomel and rhubarb were directed to be continued, and the bi-chloride of mercury in doses of one-sixteenth of a grain, to be given three times a day. This plan was continued through April and the greater part of May, when on the 26th

recurred the feverish attack, above described, for which small doses of calomel and large ones of James' powder were given at short intervals, with the effect, above, detailed; and on the 29th of that month, I again went to town with her for the fourth time, and now Sir Astley R. Cooper was added in consultation to Drs Doocob and Sir Charles Clarke. It was then determined to relinquish the bichloride of mercury; to continue the statedly occasional doses of calomel and rhubarb, and to exhibit the compound tincture of alicia in such doses as could be borne, to produce free action of the bowels without exciting diarrhoea. The result has been above stated; but it is by no means presented, that this was the consequence of the last mentioned plan of treatment, for it is more than probable that the violent attack of the 25th of May had so modified the morbid action as to enable the conservative powers of nature to lay hold of the simple treatment then ordered, to effect a recovery which had already commenced, in the supersession of the abnormal action. I add //

It is entirely needless to observe that during the whole course of this malady, the teeth were a constant object of attention, and the gums were frequently and freely lanced. //

Case III.—The following narrative has been compiled, partly from a paper published in the *Lancet*, by the late Mr. West, of Southbridge Wells, (the father of the child) on the 13th of February, 1841, and partly from a private journal of Mrs. West's, extending from the first symptom of illness to the day in November, 1848, on which the papers were entrusted to my care. For the facts, the parties most interested are answerable—for their condensation, and judicious position, and faithful rendering, I alone am responsible. //

James Edwin West was born on the 13th of February, 1840, a remarkably fine, healthy child, and continued to thrive till he was four months and a half old. At that time, the first indication of mischief, or of anything unusual about him, was a "strange casting of the eyes towards the ceiling" for several days, twice or thrice on each day; this was soon after accompanied by a slight starting, which continued for about a week, and was then succeeded by "wild bowings of the head," drawing up of the legs, and closing the hands tightly;—sometimes clenching his thumbs, and generally screaming during the attack; he sometimes awoke shrieking, and appeared much frightened. These bowings were instantly succeeded by a rapid effort to regain the upright position, and were repeated at intervals of a few seconds, from ten to twenty or more

times at each attack, recurring two or even more times in the day, but continuing not longer than two or three minutes at a time.

When six months old, these symptoms had increased so much in violence, that he had lost all power of voluntary movement, and was even distressed when moved in his bassinet. At this time a neighbouring medical friend was consulted, who advised leeches, the warm bath, lancing the gums, and keeping the bowels very freely open. The general health gradually improved, although the attacks were not less frequent. About seven months he cut the first teeth; but the disorder does not appear to have been increased by the immediate irritation of the progress of dentition, nor to have been relieved on the appearance of successive teeth. He was weaned rather before he was eight months old, without any good effect. He appeared quite indifferent to the perseverance, and took his food with appetite, but soon afterwards lost flesh, and it is now reported of him, "that he has no power to stand, nor can he bear to be moved at all actively; he always throws his head backward; his bowels are confined, though previously to the attack they were very regular and healthy."

The plan of treatment pursued was based upon the supposition, that the cause of malady was cerebral irritation from teething; and therefore leeches, and cold applications to the head, calomel purgatives, and the usual antiphlogistic medicinal and regimenal plans were directed, the gums being frequently lanced, and the warm bath often employed. Notwithstanding a steady perseverance in this plan for three or four weeks, the symptoms became aggravated, and sedatives were then employed, as syrrop of poppy, conium, and opium, but without relief. No diminution of irritation followed upon cutting the four first teeth, although they were cut nearly altogether. After this time he was treated by alteratives and castor oil.

Finding no benefit from any of the former plans, he was shown in consultation to Dr. Locock and Sir Charles Clarke. He was now eight months old, and was directed to have the spine rubbed with a stimulating embrocation, and to take a mixture containing aloes. This plan was commenced upon on the 14th of November; symptoms of cerebral irritation were noticed about this time, and on the 24th, "the bowels were much relaxed without medicine, and the excretions were slightly tinged with blood; he had a great deal of fever in the night, followed by sharp twitchings of the muscles, screaming and convulsions. On the following day the bowels con-

*tinued acting, but he slept all day, never awaking even to take food, and passing no water."* Next day, the 26th, the bowels continued relaxed, and there was an *inordinate flow of saliva*.

About the 18th to the 22nd of December, the bowels had become rather confined than otherwise, and there were *fewer bowings*.

At the beginning of the year 1841, and about the middle of January, he became the subject of infantile fever, during the continuance of which there were fewer bowings; and on the 19th of that month supervened an attack of *cerebral convulsions*, but no *bowings*. About this time also, he was *taking syrup of poppy and laudanum*, and the motions were slightly tinged with blood. The convulsions occurred every day, and on the 23rd he is noticed as *excessively feverish*; "gave eight drops of laudanum, a tea-spoonful of syrup of poppy, and a dessert spoonful of soothing mixture, and still (9 p.m.) almost *always in convulsions* with pain. All the day had a most unnatural movement of the head, rolling it to and fro, and making a strange noise, also turning his eyes and screwing his face up quite in an idiotic manner."

On the 26th he is noticed as "very restless,—*manner unnatural*; rolled his head, and appeared much distressed, with a hoarse cry; slept two hours, and had two fits; never easy but when asleep; cannot bear to be touched or moved. Opium was continued, but without producing the effect of quietude; and from this time to the end of the month the same treatment was pursued, and the same phenomena were present.

At the early part of February is recorded an augmented form of *daily convulsions*, and accompanying these are distinctly noticed also a varying but always considerable number of *bowings*.

On the 11th of February, a trial was commenced of hydrocyanic acid, and this was cautiously persevered with till the 14th of March. During this time he certainly improved; there were many fewer *convulsions*, and these were suspended entirely from the 21st of February; but the bowings increased very materially. From this time the daily journal seems to have been given up, and an occasional report only entered.

On the 24th of April, 1842, he was attacked by influenza, and had a considerable degree of fever, followed on the 26th, at 4 a.m., by a distinct epileptic fit, which returned daily at the same hour till May 1st, when it is noticed that he had had sickness from the commencement of his last attack, and that the head was very hot. Cold lotions to the head, warm baths to the feet, calomel and

lavemens were the treatment now instituted; but on the 5th he is reported "as very ill indeed; breathing bad, and rattling in the throat, with almost constant bowings; high fever, pulse very irregular, apparently dying." A high degree of cerebral irritation was evidently present at this time. The calomel was continued, and there was gradually a diminution of the intensity of the symptoms—in fact, on the 10th, these seemed to have changed from inflammatory action to congestion, since it is reported "that he could bear nursing better, but his head was a dead weight, and he had a bad sort of fit, with winking the eyes, and lolling out of the tongue."

On the 11th he appeared relieved, and was dressed and nursed, but in the after part of the day, he made fifty-six consecutive bowings, which exhausted him, and he fell asleep, but awoke, and had a strong epileptic fit, followed by ten others in the course of the evening and night. *On this day a little water ran out from the left ear.* The frequent recurrence of epileptic fits, bowings, and constipated bowels, with pulmonary congestion on the 22nd and 23rd, formed the characteristic of the remainder of the month, when the journal is again interrupted and was discontinued, "thinking it useless," until March 1st, 1843, and for the remainder of the year.

When three years old, he got up of himself by a chair, and by degrees began to walk. The bowings had diminished gradually, and ceased altogether in this (March) month. His teeth began to decay, *and his gums were in a swollen inflamed state, producing irritation, requiring to be frequently lanced.* In October we left off lancing the gums, the teeth gradually wearing away, (quere from calomel?) He frequently put his fingers into his mouth, and drivelled much. About this time he improved greatly, made an effort to speak, held out his arms to be taken up, and could walk firmly and well; always liked going out of the nursery, and was delighted *with music and gay colours*; at times he squinted, and rolled his head about.

March, 1844. Has not had a single fit during the last year, is much improved in health, but is unable to express himself by speaking; has sat at table to dinner, but is unable to feed himself.

In November, 1845, he had a fit, after a very feverish night, otherwise he had considerably improved since the last report.

In January, 1846, he was seized with shivering, followed by fever, and had a strong fit in the morning. He continued feverish the two following days, when he again improved. During this

attack he took repeated doses of calomel, and recovered slowly, with a poor appetite; and his gums and teeth were in a bad state.

There was a threatening of returning fit in *March*, but it passed off with a dose of calomel, and his health was generally good.

In *July*, of this year, he became again feverish, and in the evening, having appeared much frightened and agitated for a few minutes previously, he had another very strong fit, and the longest he had ever experienced, but seemed quite recovered the next day. From this time he had violent fits of laughter, and shaking of the head, without apparent cause for the one or the other, and these continued sometimes for more than half an hour.

He was again poorly in *October*, with symptoms of a fit, had a bad night, screaming more or less all night; had a large tooth extracted in the morning, and for the five following days was drowsy, not able to sit up, frequently awoke with a shrill shriek, and fell asleep again directly. He was again treated with calomel.

In *January*, 1847, he is reported as improved in every respect. He was now seen by Mr. Aston Key, who spoke of the future with encouragement, and recommended his being turned adrift among other boys, for the sake of the society of children; he was therefore sent to a day school. At this time he understood a few things that were said to him, but could not feed himself, nor talk at all.

In *March* and *April* he was again poorly, and would hold his forehead, as if in pain; he was sometimes feverish, and looked ill. Towards the end of *April* he was better, and went on a visit to a friend, that he might live in a nursery with several children, but, not being happy, he returned home again.

In *July*, 1847, he was seen by Mr. Watson, from the Deaf and Dumb Asylum, who advised his being placed under the care of a clever woman. He was now able to feed himself out of a spoon, and to drink from a glass; but he had frequent fits of idiotic laughter, and rollings of the head, which seemed uneasy. He looked pallid, and his appetite was bad.

In 1848, when about eight years and a half old, he was sent to Park House, Highgate, the asylum for idiots, where he has been progressing in health, and is perfectly happy. At the close of 1848, it is stated of him, that when pleased he makes great efforts to speak; he is a beautiful boy in form and countenance, and the medical men visiting the institution consider it as a "hopeful case."

Case III. — — — — — was little more than one year old at the time the following history was written by his mother, and is now eleven.

"Came on at four months of age in my presence like a very slight start, once or twice before falling asleep, and very seldom at other times. It was not sufficiently marked to be perceived by any but a very close observer; gave him no inconvenience; his general health was perfect; he sometimes, but not often, awoke crying, as if in a fright.

"From six to nine months, as winter came on, he was ~~much~~ worse after sleeping. In about three or four minutes he would, if lying down, bring his head forwards suddenly and violently towards his knees, turning his eyes up at the same time, and closing his hands. The movement was instantaneous, but occurred sixteen or seventeen times following, at the interval of a few seconds. During this time his breathing was strong and laboured, and he appeared distressed,—sometimes crying, as if frightened, after every attack. Though there was no difference in the contraction of the pupils, the eyes appeared to be opened wider than usual, and he would turn his head uneasily on his pillow to the right and left. When it was over, he would yawn as if tired; his colour or natural heat never changed; cold or motion seemed to increase it, and diverting his attention was beneficial. If taken up and held in an erect posture, the head would bow to the knees, and recover itself again immediately. A sudden noise, or any object brought unexpectedly before his eyes would make him throw his head down once, at other times. The violence of the attack depended very much on the length of time that he had slept, and increased proportionably. Though the previous description relates to the worst attacks ever experienced, his general health continued very good, inclined occasionally to be costive, eat and slept well, was never fretful, and was very fond of strong light (fire and candles) and noise, also violent jumping. He could hold nothing in his hands beyond a few minutes, disliked to have them touched, and moved his arms awkwardly, turning the back outwards.

"From nine to eleven months, the same symptoms, but much lighter; seldom accompanied by any oppression of the breath; weaned at eleven months, but did not care for the loss of his nurse; eat four times a day, and had gruel occasionally at night; got much better; did not always experience the bowing on awaking; distress of breath never recurring.

"He would let his head drop occasionally during the day, once, but instead of recovering it instantly, would keep it down a few seconds, and put his hand to the back of his head. His face would

then be flushed, his brow contracted, and the pupils of his eyes almost concealed in the upper part of his eye-balls. When he recovered, his eyes would express astonishment and bewilderment. It was found that gentle friction at the back of the head relieved him immediately; and this last appearance did not continue more than six weeks. It began a fortnight before he was weaned; violent crying, heavy food, or too great heat of room, would at all times increase the symptoms.

At present (almost fifteen months of age) continues rather better, and does not seem to mind the affection at all. It still comes on after sleeping any time, as well as at irregular periods during the day, though not more than three or four times following; if eating, he continues all the same, and when jumping, even laughs afterwards. He has a rolling motion with his head and eyes; does not always look straight at objects, and takes very little notice in general, though, *when his attention is caught*, does not appear wanting in intelligence. He had no teeth before eleven months, the worst symptoms appearing before they were cut, and commencing with the discontinuance of excessive salivation."

Dr. Locock writes, "This child, a boy, was a remarkably large child, and at fourteen months old, measured three feet in height. He is much less intelligent and animated than ordinary, and looks deficient in intellect. The great difference in the two cases (Nos. 1 and 3) is, that whereas, in No. 1, the paralytic state affected the whole of one side—arm and leg—in this boy the lower extremities are equally vigorous, but the upper are equally defective, the motions of the arms, and the power over the hands, being much impaired. This child was seen by several medical men at Naples, Florence, and Paris, but only one recognised it, and he had seen only one case previously."

In the summer of 1840, this child had a severe attack of cerebral oppression and irritation, being analogous with that which happened to No. 1, and for some time afterwards it had no bowing.

From time to time he was occasionally seen by Dr. Locock, who writes of him on the 10th of last November, that he had seen him in the preceding July, that "he is one of the most magnificent looking boys you ever saw, but an idiot, and almost unable to walk; quite devoid of speech, mind, or the power of expressing his wants. The peculiar bowing convulsion has ceased for the last three or four years, but he still often suddenly, when standing, drops, as if shot. All the children I have seen with this affection are deficient in



mind. The first case I ever saw of, it recovered, and I believe the mind only suffered like little — (No. 1) for the time, as if during the illness, no progress had been made; but I suspect little —'s mind has not yet reached what it ought to have been."

CASE IV.—"My dear Sir: The case of my poor little girl Blanche,\* was, as far as I can now recollect, as follows. When about six months old, and then cutting the two first teeth, I remarked that when dandling her in my arms, her head would fall suddenly forward. She was not by any means a strong child, and when first I remarked the fact, had a bad cold. I pointed out this falling forward of the head to my family, and to the gentleman who was attending as surgeon, and they all declared it was merely the effect of weakness of the muscles of the neck. I was uneasy, however, and watched, and I soon found that these nods, as we called them, were preceded by a sort of internal movement about the epigastric region, and, as far as I could discover, by accelerated action of the heart. No one near, however, had ever seen anything of the kind, and the treatment employed was that of purgatives. For about a year, she got on pretty well in point of development, learned to run about, to speak a few words, and though not quite well, was of a very affectionate disposition. The bowels were always inactive, and the species of convulsions by which she was affected increased in *intensity*, not *progressively*, for sometimes they would cease altogether for weeks. In one instance there was an interval of six weeks. But whenever a new tooth was coming they became very severe. I must remark that dentition was irregular, and the teeth of an unusual form, the front teeth being almost as conical as the canine. The treatment varied according to the views of the different medical men who saw her, sometimes being antispasmodic, and at others almost cathartic. At length, when about two years old, I took her to London, and Mr. Blagden and Sir Charles Clarke saw her in consultation. Sir Charles prescribed steel, I think the citrate; but the effect was to throw her into fainting fits, in one of which we almost thought her dead. We were obliged to abandon the steel, and had recourse to antispasmodics again. But still the convulsions continued, the head suddenly falling forwards, so as sometimes to throw her down, the *hands extended, and the fingers and thumbs wide apart*. During the intervals of total cessation, which occurred from time to time, she made much intellectual

\* Born July, 1841.

progress, but ~~none~~ while the convulsions were of daily occurrence on the contrary, she then went back.

In the year 1845, after some severely hard work, I resolved to take a holiday for six weeks at Ems, and took all the family with me. This poor child seemed, without being sick, to suffer much ~~from the sea~~; became heated, and very irritable; and on the railroad, though our journeys were short, grew so much worse, that we were obliged to stop some time at Aix la Chapelle, and then quitting the railroad, post on by slow journeys to Bonne, where I knew that my friend Dr. Lever was residing, and I could get good advice. He lanced the gums, which had been very frequently done before, and, by very gentle aperients, brought her round in some degree.

"After our arrival at Ems, considerable tendency to *relaxation* of the bowels showed itself, which was quite contrary to her former state, and this relaxation recurring frequently, was one of the greatest difficulties we had to struggle with, for the appetite was by no means good, and very capricious.

"From Ems we went by very slow journeys to Heidelberg, for the purpose of putting her under the care of the celebrated Professor Chelius, an old friend of mine; and Dr. Lever was kind enough to come up and meet him in consultation. Turpentine, taken internally, was then tried, but without effect on the disease, while it created great irritation. Dr. Chelius then determined to try a plan which he had found succeed exceedingly well in slight effusion of water on the brain. This was by producing a sort of gentle mechanical pressure, by means of bandages of adhesive plaster round the head. Some benefit appeared to take place. I think the attacks were less severe at the end of two months, and the size of the head was decidedly diminished. But the relaxation of the bowels returned, and we were obliged to remove her to Carlsruhe, as it was found that the air of Heidelberg agreed with none of us. Dr. Chelius continued to visit, but, unfortunately, during the winter of 1845—1846, she caught cold, and inflammation of the left lung succeeded. At this time she had so far recovered from the attacks of diarrhœa as to be able to run about again quite well, and amuse herself nicely; but after the inflammation of the lung, she never recovered from the subsequent weakness. For change of air we removed her to Baden, where the climate is exceedingly mild. She was there placed under the care of the Grand Duke's physician, Gugert, with occasional visits from Dr. Chelius. Gugert was not always very open as to his prescriptions, and the remedies

he employed I do not altogether know; but very soon after our arrival at Baden, great hæmorrhage took place from the bowels,—apparently the rectum—and when this was stopped, slightly discoloured swellings appeared in the thighs, at the back of the knee, apparently accompanied with very great pain. Great prostration of strength took place, and an indisposition to be moved in the least from one peculiar position, in which the legs seemed to obtain ease. As the weakness increased, the spasmodic nodding ceased; but violent fits of agony seemed to seize the poor little sufferer, who would scream dreadfully, sometimes for half an hour at a time. The appetite gradually failed, diarrhœa returned at frequent intervals, and, after suffering for three months longer, death took place from complete exhaustion. All power of expression had been gone for a considerable time, and intellect seemed at an end; but yet there was perception and affection, for to the very last she knew me, and would do anything when told it was to please me. Thus, half an hour before her death, she sat up in my arms, and tried to eat something at my request, when she had paid no attention to any one else for many hours.

“P.S. I forgot to mention that when there was no diarrhœa, the fœces were often, in the last year, covered with a thick coat of curd-like substance, quite white.”

The above graphic sketch of malady, from the pen of no ordinary observer, is quite sufficient to establish the identity of the malady—to give the history of another remedy uselessly employed, viz., turpentine—to show the inadmissibility of steel—to trace the influence of the disorder in its progress quenching the light of intelligence, and superinducing the thick clouds of mental hebetude, though not perhaps absolute idiocy; and to show its close alliance with the strumous diathesis, exhibited first in that form of *feeble enlarged head* for which pressure was applied, then in the disorder of the digestive organs, then in the peculiar form of inflammation of the lung, then in the usual disturbances of the mesenteric glands, and lastly, in that amount of cerebral irritation and disorganisation which were probably dependent on tubercular formation.

#### REMARKS.

1. This affection appears to be spinal in its *origin*: for although it will have been established by the foregoing cases that previously to the attack there had been some peculiar expression of the eyes, and some degree of heaviness, or of unwonted irritability, yet, as all

the early phenomena are spinal, it must be classed as an eccentric affection; and the little disturbance of the cerebral manifestations may be explained by the reflex irritation of this morbid spinal agency, which has commenced, is proceeding, but has not yet reached that culminating point at which it interferes with the established harmony of the voluntary or semi-voluntary muscles.

2. Though spinal in its origin, it will have been noticed, that in every instance general convulsions will soon make their appearance, and cerebral symptoms will occur.

3. The effect upon the manifestations of mind is most marked; consisting, not in a simple arrest of development, and defective nutrition, for then it would remain just as when the disease supervened, whereas it will have been seen that a desolating influence is at work—a morbid action has been established; and although this shall seem to be at rest for a time, and the mind shall grow during intervals of freedom from the attack, yet on a renewal of the distressing symptoms, it will be seen that the downward action is progressive, that the early sparklings of intelligence are obscured, and that the mischievous influence is proceeding surely, to the extinction of intellect in fully formed idiocy.

4. As far as is yet known, this effect upon the manifestation of mind has been invariable, though not always to the same extent. Of the four cases recorded, one only has recovered, and that not perfectly; and this only under circumstances of such peculiar care, and such unusual advantages, as could not be brought to bear upon the great majority of similar instances. One other case is alluded to; as having partially recovered; and one other has been mentioned to me, of a very mild influence, yet apparently of the same character, in which deterioration of the mental action had not overtly taken place. But this occurred in a young lady of seventeen, and I am not acquainted with the details.

5. Not only have the manifestations of mind been blighted, but, in many instances, paralysis has been a consequence, either in the form of hemiplegia or paraplegia; the kind of paralysis, therefore, has not been uniform, though in some form or other, and in a greater or less degree, it has been invariable. Has this arisen from pressure at the base of the brain, or on the medulla oblongata—or has it been the consequence of the exhausted excitability of the spinal system?

6. It is to be remarked that, in each of the recorded cases, the severe attacks of the peculiar bowing have always been preceded

by sleep; they have been always noticed to occur with especial severity in the morning after the night's sleep, or after the customary morning nap. This invariable sequence must have a cause, and perhaps that cause may exert a more general influence over the malady than would appear at first sight.

7. The condition of the nervous system during sleep is at all times peculiar; and even under healthful circumstances, there is a tendency to cerebral congestion. The experience of every observer will have proved this; first, by the influence of a *short* sleep during the day, which invigorates and refreshes, but which, if protracted, leaves the head *heavy*, the intellect beclouded, and the propensity to prolonged sleep unconquerable; and secondly, by the *natural* awaking from natural sleep, after a night's rest, which, if attended to, results in refreshment of the body, and activity of mind, but which, if passed over, and another hour be devoted to dozing, results only in the aching head, the languid frame, and obnubilated intellect, which are only superseded as the day advances by the stimulus of breakfast, and that preponderance of arterial action which dissipates cerebral congestion.

8. Other causes operate to produce this state in childhood, and since these may for the most part be *obviated*, they become worthy of primary attention. First, the position of the head during sleep is usually such as to interfere with the freedom of the returning circulation in the neck, and hence congestion of the brain and nervous centres. And secondly, it is not uncommon for children to be placed for their sleep with their heads buried in a feather or down pillow, or enveloped with a cap, or flannel mantle, or almost entirely covered over with bed clothes, all of which tend most admirably and surely to increase the arterial circulation, while, as it has been shown, the venous or returning circulation is impeded. The consequence is too obvious to need explanation: and did it require extraneous support, it will be found in the influence of opium exhibited in case 2.

9. There is evidently in this malady a family alliance with epilepsy, and hence, as has been demonstrated by the foregoing cases, it often passes into epilepsy, or some other form of infantile convulsions. Tetanoid symptoms also do sometimes occur during its progress. This affection is mentioned by Dr. Marshall Hall, who does not, however, appear to have witnessed it, amongst the forms of cerebral malady.

10. It will have been noticed, that the little patients express *alarm* during the attacks; they appear as if *frightened*. But this

*Inconspicuous* not a symptom essentially attaching to the malady, but rather the expression of undefined apprehensions from finding themselves subjected to unusual motions of the body, over which they themselves have not the usual control of volition.

11. In a very large meeting of medical men, at Southampton, in the year 1840, to whom I mentioned the case under my own immediate care, it appeared that not one had ever seen the affection, but it was set down to be dependent upon *dentition*. It is very easy to cut the Gordian knot of difficult inquiry, by ascribing these peculiar phenomena to a well known cause of infantile nervous irritation; and assuredly, the irritation of the trifacial nerve, during the process of dentition, may be considered as a probable cause of the whole malady. But it is to be remarked, that in the case more especially my own, there had been no disturbance from dentition up to sixteen months of age; that no marked relief of the symptoms followed upon freely lancing the gums; that no aggravation of symptoms attended any particular stage of the progress of dentition; and that this process was not completed when the bowing affection finally ceased. On the contrary, in at least two of the other cases, the symptoms were aggravated or alleviated by certain conditions of this great natural travail. Yet in case 2, dentition does not bear a marked influence upon the course of the malady; and in case 4, the principal severity of the symptoms, and injury to the cerebral functions and structures, occurred after the process of the first dentition had been completed. Although, therefore, I would reject the idea of the *Eclampsia nutans* originating solely from dentition, yet I would by no means overlook this as a probably aggravating cause, under circumstances of peculiar excitability of the nervous centres.

12. It would be unfair to overlook irritation of the pneumogastric nerve, in the process of difficult digestion, as a possible cause of this malady, when we know the great susceptibility of the infantile nervous centres, and when we see the ease with which they are disturbed by an overloaded stomach, or by the presence of indigestible food. Nevertheless, although worthy of attention, I do not conceive this to be the essential cause of the malady.

13. In the same category would I place as an unproven cause of this disturbance, the irritation of the spinal nerves from the presence of worms, or other irritating dead matters in the bowels. These are not to be overlooked, but they are not the cause; nor should any of these, or all of them combined, take off our attention from what I verily believe to be the fons et origo mali.

14. The influence of atmospherical changes must not be forgotten; and it must be recollected, that in the case No. 1, the first disturbance came on in the middle of winter. But then it must be recollected, that it continued and increased through the summer: this also was the case with No. 4. In the other cases, the malady did not make its invasion in the winter. In my own case, (No. 1) the patient was shrouded from all undue exposure, and inhabited the most splendid well-warmed and well-ventilated nurseries. In two of the other cases, the same phenomena occurred in Italy, and Germany, and France, as under our own climate of vicissitudes; so that it may reasonably be inferred, that atmospherical changes have not a material influence on the malady. Nevertheless, the atmosphere may be made subservient to the beneficial treatment.

15. There are some differences in the phenomena described which it would be right to notice.

a. During the paroxysms the hands were closed in Nos. 2 and 3, but they were expanded in No. 4, showing that in the former cases irritation of the flexor muscles—in the latter, of the extensors—was predominant.

b. The throwing of the head backward in No. 2 appears only to have been a consequence of muscular and general feebleness, whence the head, from its own weight, fell backward from the want of adequate support.

c. In No. 2 the irritation of the *decaying teeth* seems to have been the greatest in 1843, when the peculiar bowing affection was relieved; but in No. 4, the bowings were aggravated when teething irritation was greatest. Was the early decay of the teeth of No. 2 a consequence of the malady, of the peculiar constitution, or of the large quantity of calomel exhibited?

16. In the case No. 2 is very strongly marked the distinctness of the *bowings* from the cerebral convulsions, and fully formed epileptic paroxysms which occurred in the subsequent history of its progress.

17. We may not altogether pass over the noticed escape of water from the left ear of No. 2. It does not appear to have been in any considerable quantity, and there is not sufficient ground for reasoning upon its origin; it occurred *after* symptoms of meningeal irritation, and may have been its product; but it may also have arisen from other and unimportant causes.

18. The fondness for music, and pictures, or gay colours, has been so marked in some of the above detailed cases, that it should

be noticed, as it shows that the injurious impression has not been made upon the organs of sense, and as the judicious employment of these senses would form a most important part of the future educational treatment, because affording large inlets of knowledge, and to the development of sentiment and affection.

19. A few remarks seem necessary upon the treatment hitherto adopted. It is clear from these cases that the principle of prescription has been based upon spinal irritation, as the first link in the chain of morbid actions; and to give calomel doses to keep the secretions in order, and steel, or some other tonic, to sustain the powers of life. But in No. 1 it does not appear to have exerted a beneficial influence; in Nos. 2 and 4 it seems to have been rather injurious. Prussic acid, as a sedative, seems to have palliated the symptoms, but opium to have undoubtedly caused aggravation—to have increased the convulsions—and not to have procured *quietude*. It is easy to see how opium may have aggravated the symptoms, if these be in any measure dependent upon a congested condition of the vessels of the brain. The state of the fontanelles would afford material assistance in determining this question, whether there be a hypercæmic or anæmic condition of the organ. So far as my opportunities for investigation have gone, the cases have all occurred in children whose brains were marked by high action, accompanied by little power.

20. It cannot fail to have been noticed that the injury done to the brain is progressive—that it is not the result of one fearful storm, which commits its ravages and is gone—that in the first instance, the cerebral manifestations are uninjured, but that they are more and more obscured so long as that disorder is continued, of which the peculiar bowing is the first indication and the pathognomonic symptom.

21. Here then arises the question—wherein consists this morbid action? After an attentive watching of my own case, and after a very close investigation of the phenomena attaching to the other cases, my belief is that the essential character of this malady is inflammatory action of a weak or strumous character; that, in all probability, this commences in the membranes investing the medulla oblongata; that it is early extended to the membranes covering the base of the brain; that inflammatory action is succeeded by congestion in the vessels supplying and nourishing the organ itself; that this condition is followed by exudations of lymph or serum, the locality of these effusions being determined by the constitution



and local circumstances; that, as a consequence of these exudations, paralysis is produced from pressure, its peculiarity being defined by the exact situation of the effusion; that the regular nutrition of the brain is interrupted, and its manifestations blunted; and in the more aggravated cases, the organ becomes so deteriorated as to lose all power of carrying on the intellectual functions, it having, in all probability, partaken of the same kind of inflammatory action as first appeared in its investing membranes.

22. With these views, it is obvious that on the occurrence of another similar case, I should not pursue the same plans as formerly, but that the treatment would be based on the indications arising from the preceding statement of opinions with regard to the essential nature of the malady.

23. Setting off with the indications arising from strumous inflammatory action, I should be very cautious not to diminish the powers of life, while I was endeavouring to counteract its morbid tendencies.

24. With regard to direct medical treatment, I should very reluctantly apply leeches; though if the power of the system and cerebral action would seem to warrant such treatment I would fearlessly employ one or more leeches behind each ear, according to the age of the little patient, and I would repeat this application, according to circumstances, always taking care not to blanch the system of its red blood. I might probably give the tartrate of antimony in full doses, for a short space, but I should not rely long on this powerfully debilitating medicine. I would give small doses of Hyd. cum Cretâ every third evening in combination with Pulv. Jacobi, and Pulv. Ext. Aloes aquosi, exhibiting also the *two latter* every evening in such doses as would keep up free, but not cathartic, action from the bowels, and would at once clear the liver from its oppressions, relieve the brain from congestion, and invigorate the digestive functions. Then I would exhibit, in very moderate doses, the iodide of potassium, with an excess of potass, and combined with sarsaparilla; and as soon as I felt assured I had only to deal with enfeebled vessels, I would combine this plan with steel wine, taking care neither to anticipate nor defer this change beyond the time when careful observation would declare it to be justifiable. I would add to these plans some mode of counter-irritation, and I think the best would be the insertion of a seton, which, if judiciously and carefully managed, might be done without proving a source of great annoyance to the little patient; and where physical and intellectual life

and health are endangered, one would not mind even some great inconvenience and trouble to save both the one and the other. I have not mentioned cod liver oil, but it might perhaps find its place.

25. Perhaps even more is to be accomplished by attending to the regulation of the circumstances of infantile life than by the direct agency of medicine, though it is my decided conviction that the former without the latter would be unavailing.

26. It would seem that there are certain organs and functions which more especially claim our attention, together with that peculiar process which oftentimes characterizes, and even occasions, infantile malady. I would, therefore, make a few observations on the subject of dentition, and then more especially notice the cautions required by the brain, the stomach, and the skin.

27. Although I have already ventured to question *the origin of Eclampsia nutans* in the process of dentition, yet it is impossible to doubt that it may exert a very injurious influence upon its *progress*. The augmented arterial action in the gums and alveolar processes, and the difficulty with which the *fibrous structure of the membrane immediately investing the tooth is absorbed*, must necessarily give rise to such an amount of local congestion and irritation, reflected upon the nervous centres, that no right-minded person would hesitate to relieve this condition by adequate and repeated lancing of the gums, so as to liberate the teeth from their fibrous investment, and to aid them in making their escape through their more superficial covering. At the same time, so important is it to avoid mental emotion, that this process of scarification should be done as quietly and as delicately as possible, and with the least possible excitement of a mental kind.

28. This observation conducts us at once to the state of the head, and to the great importance of avoiding mental emotion and everything which tends to increase cerebral action. I should not be an advocate for the continued application of much cold to the head, since by so doing venous congestion may be produced to a more mischievous extent than can be remedied by any counter-vailing diminution of arterial action. But if the child could be brought without suffering alarm to be accustomed to the impression of tepid water from a portable shower bath, at first very quietly administered, and by degrees somewhat more impressibly, and from a greater height, I should look upon this as a remedy of great power. Where this cannot be accomplished, I would employ the warm bath every morning, taking the precaution of applying a cold evapora-

ting lotion to the head at the same time. I would not allow a cap to be worn, night or day, on any pretext whatsoever; and I would take care that when asleep, the cool air of the nursery should have free access to the head and nose, always guarding the extremities from cold. I would on no account suffer the little patient to lie on a feather bed or down pillow, and would substitute for the former a horse-hair mattress, and for the latter, a pillow composed of horse-hair lightly shaken into its case. The form of the pillow is not unimportant, for it should not only consist of the material above mentioned, but its depth should be only just such as to fill up the space between the parallel planes of the point of the shoulder and the side of the head. The object of this requirement is that the head should lie naturally, making, by its position, no pressure on the returning vessels, and incurring no risk of the head dropping from the pillow, and falling forward upon the breast. The influence of all excitants of the nervous system should be most sedulously guarded against, since all these lead to that reflex concentric action, which *must tend* to augment inflammatory action or congestion, and to bring on those attacks which, though dependent upon morbid excitability of the disordered structures, yet are liable to be induced, brought into action, and aggravated by external excitants. Hence, as far as possible, the little contrarieties of infancy should be avoided; its little troubles should be soothed; every approach to harshness of manner or of management should be proscribed; discipline and firmness should be so tempered by mildness and affection as to lose their asperities; nothing should be done suddenly or hastily, but the greatest quietude should be observed; emotion of every kind is to be superseded; even a surprise, though it be apparently of a very douce character, should be avoided; the presence of strangers, and the introduction to unacquainted faces had better be avoided; and whatever is really necessary to secure the comfort of the little invalid, which may be disagreeable, must (in the same manner as lancing the gums) be accomplished in the same expeditious, quiet, delicate manner. This principle, of course, extends to all the little passions of early life, and even to the impressions made by sudden noises—and more than all, to those noises, if likely to awaken the little sleeping patient from his slumbers: for then would be combined the emotions of surprise and fearfulness, which would both operate banefully upon the morbid state. There is required in the management of these cases, the watchful eye of an affectionate parent, and the constant care of an

intelligent, firm, kind, and thoroughly self-denying nurse; and particularly for this reason, that although the infant mind is not to be stimulated to action, yet its natural phenomena should be most carefully watched, its development fostered, its lost power noticed and recorded, and its morbid tendencies chronicled; such a rare combination of excellencies were met with in the case No. 1, and to these greatly may be ascribed its happy termination. Before quitting the subject of cerebral management, it should be mentioned that the patient should be always accustomed to *lie down awake* when placed in its bed, either for the night or the morning nap; that in all such cases it should not be previously nursed off to sleep, and that anything *like rocking* should be most rigidly prohibited.

29. We come now to notice the stomach and digestive functions. Irritation here is of great importance, and should claim our especial attention. Care should be taken that the food should always be of a light and easily digestible character, and that its quantity should be regulated by the digestive powers. It is to be remarked that the meals are not to be too frequently nor too distantly given. The stomach is an organ which must have its period of repose as well as of activity; it is invigorated by *exercise*, but exhausted by over-fatigue; its energies are quickened by repose, but enfeebled by too long inaction or fasting, and the only way by which its powers can be retained or improved, is by regularity in the hour of administering its supplies, and proportioning those supplies to the peculiarities of the individual organ. An error is often made on this subject, either by the too great frequency or the too great distance of the meals, both of which extremes, as has been shown, occasion feebleness—the first from overtaking power, the last from its exhaustion. And since, in the subjects predisposed to eclampsia nutans, there is a prevailing preponderance of white fluids, it should be remembered that though the quantity and quality of the food must be regulated by the age of the child, yet that it should at all times be nutritious, unstimulating, easy of digestion, and, as far as may be, of a *dry character*. The period of life is one of development, and therefore, diet must be nutritious. But sub-inflammatory action is going on, and therefore the capillary circulation must not be goaded by stimulants; and the stomach is weak, therefore the food must be easy of digestion. The great morbid tendency of the digestive organs is to the prevalence of acidity, therefore acrescent articles of food, sugar, &c., should be avoided, and when

acidity is present, it is best controlled and counteracted first, by antacid remedies, which will support the energies of the stomach, such as the *vinum aloes*, the *inct. aloes*, c. or the *decoct. aloes*, c. It need scarcely be said, that the excreting functions must be sedulously watched, and their appropriate indications followed out, securing the effectual performance of the function of defecation, and that depuration of the blood which can only be effected by preserving the actions of the liver, the skin, and the kidneys. All these organs will require attention, and each demand its particular remedy, yet all harmoniously tending to the one great object of dismissing from the system those inaterials which, by their presence and continuance, may tend to increase morbid action—at all events to extend its ramifications.

30. And this leads me to notice the impression of the air. It is easy to make mistakes upon this subject. The little patient should live in well-ventilated nurseries, but it should be shielded from draughts of air; its power of resisting cold and generating warmth is feeble; the extremities easily become cold, and, by consequence, congestion readily occurs in the cerebral vessels. While, therefore, we secure the point of its having plenty of fresh air in its day and night nursery, this must not be obtained during the cold seasons of late autumn, winter, and early spring, by the admission of the external atmosphere, but of the air of the house which has been previously warmed, so that it may always live in a temperature of 56° to 64° Fahr. If the temperature fall below the one, or rise above the other, it will not be comfortable. The patient will be chilly when asleep, or feverish when awake, and both these states should be prevented.

31. With regard to exercise in the open air, the little patient should be well clothed, with plenty of non-conductors of its own temperature. It should then be taken out warm, and freely exposed during a considerable part of the day, when the weather is fine; but it should be most sedulously guarded from atmospherical inclemencies and vicissitudes.

Finally, its amusements should be diversified. It should not be allowed to fret from the want of little objects of interest—but those objects should not be of a boisterous nature; they should all possess a quiet character, and tend to educe imperceptibly the powers of the intellectual, and the energies of the affective faculties.

Farnham, Feb: 22nd, 1849.

**MEMOIR ON THE HEMORRHAGE**  
**WHICH OCCURS TO**  
**PREGNANT WOMEN;**  
**THE**  
**MEANS OF ARRESTING IT**  
**WITHOUT INDUCING LABOUR;**  
**AND OF THE**  
**METHOD OF PROCEEDING TO DELIVER,**  
**IN CASES OF NECESSITY,**  
**BY AN EASIER AND MORE CERTAIN**  
**WAY THAN USUAL.**

**TRANSLATED FROM THE WORKS OF M. PUZOS FOR THE BRITISH RECORD  
OF OBSTETRIC MEDICINE, &c., EDITED BY C. CLAY, M.D.,**

**BY**  
**J. CHRISTIE, M.D., ABERDEEN.**

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**AND 12, LIVERPOOL STREET, LONDON.**

## THE MOUTH

periods of gestation, the mouth is liable to various diseases. The most common is the inflammation of the mouth, which is called stomatitis. It is characterized by a redness and swelling of the mouth, and by the formation of a white coating on the inner surface of the lips and cheeks, and on the tongue.

That which is called stomatitis is almost always caused by a local inflammation of the mouth, or by its extension from the throat. It is most common in the first half of gestation, and is most frequent in the first four months. It is caused by a local inflammation of the mouth, or by its extension from the throat. It is most common in the first half of gestation, and is most frequent in the first four months.

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The placenta is a mass of blood vessels which is attached to the uterus, and which is the source of the blood supply to the fetus. It is not attached to the uterus, but is attached to the wall of the uterus. It is not attached to the uterus, but is attached to the wall of the uterus. It is not attached to the uterus, but is attached to the wall of the uterus. It is not attached to the uterus, but is attached to the wall of the uterus.

## ESSAY ON HEMORRHAGE.

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HEMORRHAGE may occur to women in any one of the periods of pregnancy, but the commencement and end are more liable to be disturbed by this accident than any of the intervening terms.

The hemorrhage which occurs at the commencement of pregnancy arises from various causes. It is commonly caused by abortion, retention of the placenta in the uterus after the expulsion of the foetus, disturbance of the pregnancy by some accident or shock, and false conceptions with a tendency to expulsion.

That which occurs at the end of pregnancy is almost always caused by the separation of some part of the placenta, or by its complete separation from the base of the uterus.

Abortion, or the expulsion of the foetus before its maturity, is always accompanied with a loss of blood; it is slight when the uterus expels nothing but the foetus; but when this organ labours to expel the placenta retained after the expulsion, the hemorrhage is very abundant.

The public frequently accuse those of ignorance who, called to a case of abortion of this kind, leave the placenta to nature, in place of endeavouring to extract it. They know not, doubtless, that it is not in the power of art, in labours at the term of two or three months, to obtain the expulsion of the bodies which may, from various causes, then occupy the uterus.

The placenta often remains in the uterus when the umbilical cord is too weak to permit of its removal by pulling, and when the pains are not strong enough to accomplish its expulsion. It must also remain in the uterus when the opening which has given passage to the foetus is not large enough, compared with the volume which the placenta presents to its orifice; and, finally, it is impossible to withdraw it when it remains adherent to the uterus after the expulsion of the foetus, and therefore much better to wait the efforts of nature to expel it, than to make useless attempts to remove it.



The placenta lodged in the uterus after the expulsion of the foetus, causes more or less disorder in that situation. If it is completely separated, and the uterus has had the power to engage it in its orifice, the discharge, which may until this period have been violent, becomes more moderate by the displacement of a body which, not being nourished, shrinks up in this situation, and permits the uterus to contract in proportion to its diminution. This contraction moderates the hemorrhage, by the immediate application of the walls of the uterus on the foreign body, and by the compression of the vessels, which necessarily ensues on the contraction of this viscous.

If the placenta is adherent, and the circulation between it and the mother continues uninterrupted, the hemorrhage is very slight; but immediately that nature makes an effort at separation, with a view to its expulsion, and as many as are the parts of it which separate, so many are the sources opened for the discharge of blood; and when it is completely separated, this hemorrhage also becomes greater. The prodigious number of vessels shut up by its adhesion, then permits of a profuse loss of blood, until the uterus is rid of this fleshy mass; or, by contracting, has caused it to shrink, and thus allows of its being extracted by the means of art.

I have seen women, in a similar case, lose so much blood that they would have been in danger of perishing, but for the assistance I rendered them.

Such was the case of a lady, in the *rue Sainte Croix de la Bretonnerie*, who was very happily delivered of a three months' foetus. The placenta had not been brought away for the reasons cited above, and no accident had followed from the moment of the expulsion of the foetus up to the eighth day; but on it the discharge of blood became so violent, that the nurse and her assistants began to fear for the life of the patient. I was called to her, and found her in a cold sweat over all the extremities. The pallor of her countenance and frequent faintings indicated the quantity of blood which she had lost, and the danger in which she was. Having examined her, I recognized that her pains, which only ceased from exhaustion, had brought a portion of the placenta into the os uteri. I seized this presenting part, and moved it gently. By various motions I excited the pains once more. These fresh pains reanimated the patient a little, and availing myself of her little remaining strength, I induced her, by the hope of being speedily delivered, to join her efforts to those I was exerting, by the means I

employed to relieve her. The little she was able to make sufficed, and I brought the placenta away nearly entire. The discharge ceased almost on the instant, and the patient was restored to health in a very short time.

A false conception, or false germ, necessarily produces a loss of blood, by the sudden rupture of the pedicle which connects it with the fundus of the uterus, and by the efforts which this organ makes to expel the foreign body.

Hemorrhage, arising from this cause, sometimes slight, and sometimes very violent, does not in general cease either by bleeding or by the use of astringents. There is nothing but the expulsion of the false conception from the uterus, or, at least, its separation from that viscus and detrusion, into its neck, which is capable of diminishing this discharge.\*

As this kind of delivery is more the affair of nature than of art, the attention ought to be directed to make the patient take light nourishing food, in order to sustain the powers, and to give time to the pains and coagula to force the false conception within the reach of being seized; when nature has not power enough of herself to effect the expulsion, and when the cessation of the pains and of the hemorrhage leads one to believe there can be no other termination to the case.

Of all the women whom I have assisted in such circumstances, I have never seen any more exhausted than were two ladies of condition whom I attended in the same year. Each lost more than six or seven pounds of blood, in less than twelve hours that the false conception took in falling into the neck of the uterus, and in being expelled with a little assistance.

I would have had occasion of fear in many instances of this kind had not experience taught me that it is extremely rare to see women perish from the loss of blood caused by false conceptions, or from abortions before the fourth or fifth month, at least, when these labours are not complicated with some other more dangerous disease, or when the patient has not had assistance.

It is not the same with the discharges of blood which occur on the seventh, eighth, and ninth months of pregnancy; they are in

\* It frequently suffices to arrest the flow of blood, that the false conception fall into the cervix uteri, because this part so elongates itself in this process as to contain two-thirds of it, and in order to leave the body of the uterus freedom to contract. I have sometimes seen the cervix uteri of the length of a finger, and representing a kind of a tube in these circumstances.

general less profuse before delivery than in the abortions of which I shall afterwards speak; but, although less considerable, they have but too well taught obstetricians the dangerous consequences connected with them, and the eminent peril in which they place the patient, who, without having given occasion of inquietude to the attendants, justifies but too frequently by her death soon after delivery, the dangerous prognosis given of them.

Hemorrhage at the end of pregnancy may arise from various causes, but the most common is the separation of some portion of the placenta from the fundus of the uterus, and this suspicious circumstance would almost always render artificial delivery necessary, if experience had not shewn that by proper precautions and remedies a discharge of blood caused by separation may sometimes be arrested, and that this should not be had recourse to but when gentler means have failed, or when the uterine discharge is accompanied with pains, faintings, and with some dilatation of the uterus.

The means which I have employed before having had recourse to artificial delivery are frequent bleedings, medicines calculated to calm the excitement of the vascular system, food of a light nature, and in small quantity, perseverance in the recumbent position, and clysters of water in order to prevent the efforts that would otherwise be made at stool. These wise precautions have frequently suspended, and sometimes suppressed, hemorrhages accompanied with small clots; not by adhesion, so to speak, of the separated portions of the placenta to the uterus, but by giving time to the blood arrested at the mouths of the vessels to coagulate, and to form small soft plugs corresponding to their diameter, and capable of arresting the flow of blood.\*

The discharge arrested by such slight means, and so susceptible of being deranged by the least imprudence, demands the greatest care on the part of the woman. I have seen some so wise as to neglect nothing which had been prescribed, and their deliveries were very fortunate.

In 1741, I delivered a lady near the *Place de Vendome*, who had had a very considerable discharge of blood towards the middle of her pregnancy. It was accompanied with pains, and the discharge

\* The proofs that the parts of the placenta detached from the uterus do not again adhere, although the blood has been arrested, are the frequent return of the discharge during the rest of pregnancy, and the clots of blood found after delivery in the situation of the placenta.

of clots, which are almost certain signs of delivery. Not content with having frequently bled the patient, I passed a very considerable time in waiting for a labour I could not think far off; nevertheless, the pains became feebler, and the discharge having appeared to me to be diminished, I left, directing her to keep rigidly to bed, and not to raise herself to the sitting position on any account. Everything was, on her part, punctually attended to, and the symptoms gradually diminished, the discharge altogether disappearing about the fifth day.

This case does not always turn out so happily, either from the imprudence of the patient in disobeying too far the prescribed precautions, or from the inefficacy of the means employed to arrest the blood, or to maintain this suppression by the clots of blood of which we have spoken.

It is not unusual to see the discharge re-appear after having been suppressed for some days, even for some weeks, and it is observed that blood is then lost in greater quantity than on its first occurrence.\*

When the discharge of blood re-appears, and does not yield to the means which have been employed with success, when the clots which escape from the uterus are discharged with some pain, and the os uteri dilates a little, when to the loss of blood there is added faintings, and when there is no doubt of the separation of some parts of the placenta, we must determine on delivery, which, in that case, is a matter of necessity, there being but a slight disposition to it naturally. For if this process is left to nature, which, in hemorrhage, always acts slowly, precious time is lost, and the mother and child may perish before delivery is accomplished; and it would be matter of reproach that means were not made use of, recommended by the best authors, and which use daily justifies. I am even so much the more attached to this means that it is easily performed in this case, and if we are not so fortunate as to save the mother by this artificial delivery, we often have an opportunity of

\* It is presumed that the recurrence of hemorrhage at the end of pregnancy augments the separation of the placenta, in consequence of the clots first discharged from the mouths of the vessels receiving new layers of the blood which begins to escape, and which, thus becoming larger, separate farther the internal walls of the uterus from the placenta; and further, resembling small wedges, which, the more they are multiplied in number or size between two bodies, the more they separate them the one from the other.

giving Christian baptism to the child, and sometimes both the one and the other escape the great danger.

This assistance, such as it is, still having some great inconveniences connected with it, in order to shelter ourselves from the pain of seeing so many women and children perish, even with the operation so much recommended, I have deemed it my duty to search in the different modes of performing artificial delivery, for a method which shall render it less dangerous, and which may spare obstetricians the pain of so frequently seeing women die half an hour or an hour after delivery, which, up till then, was, to all appearance, most fortunate.

Success has attended my researches, and I flatter myself I have discovered a means which, holding a middle course between natural and artificial delivery, better fulfils than any other the indication of artificial delivery, and which promptly relieves.

Before making known the advantages of this method over those which have hitherto been practised, I think it proper to say a word on the absolute necessity of delivering in cases of uterine hemorrhage, when it is caused by the rupture of any of the placental adhesions, and on the small success which results from artificial delivery, although easily and promptly terminated.

In order to demonstrate the necessity of delivering in the hemorrhage which occurs at the advanced periods of pregnancy, and when it does not yield to the means of which we have spoken, one must represent to himself the prodigious number of the sources of hemorrhage opened in the fundus of the uterus by the separation of any of the portions of the placenta. These sources, which cannot be dried up but by the shrinking and contraction of the uterus, continually give forth blood whilst the foetus is contained in its cavity; and, as nature labours but feebly towards expulsion, artificial delivery must be had recourse to, in the hope of facilitating the contraction of the uterus, by the removal of the bodies which keep it passively dilated; also, in order to obtain the contraction of the open vessels; and, finally, with the view of saving the mother and child by an operation which succeeds nearly so much the more that it is wanted.

If the health of a female attacked with hemorrhage in pregnancy always corresponded to the expectations of those who flatter themselves with saving it by an operation necessarily severe, or if the proofs of this necessity are quite enough to render us indifferent to the fortunate or unhappy consequences which may follow this kind

of delivery, we would have remained a slave to the practice handed down to us, or contented ourselves, as those who preceded us did, with the melancholy advantage of saving a few women from a danger which, unhappily, is still by far too common, notwithstanding all our care; but, something more than this slight success is wanted by those concerned in the progress of their art, to enable them to overlook the evils inseparable from this operation, and, as in my case, I may say, I have never had faith in compensating the loss of blood in one woman at the expense of the health of another, I have seized with eagerness the means of enabling me to dispense with artificial delivery; and I am so much the more attached to them, as they have succeeded as many times as I have used them.

Having been often called to assist women with hemorrhage in childbed, I have remarked that those whose pains were so strong as to allow of nature acting where the labour admitted of expedition, lost less blood than those whose pains were weak,—that the increase of the pains became a means of either arresting or suspending the discharge before the end of labour, and also, that in these cases the deliveries were very fortunate, it being rare that the unfortunate consequences connected with artificial delivery occurred to interfere with the success of the natural operations.

These happy results in circumstances in which art is employed too precipitately, led me to think that instead of having recourse to artificial delivery, in the cases even which appear to require more a change in the order of nature by turning the child, and to run the risks attached to such an operation, it was not perhaps a question of success, than to procure pains in a case where they do not generally exist, or to cause their augmentation when they are very feeble, in order to terminate the delivery in the natural way.

This consideration was very soon justified by the happy results, the history of which I shall immediately recount. I am persuaded that even were it necessary to deliver by force in hemorrhage, it should not be over hastily had recourse to, and also, that it will generally be more advantageous not to employ art, but rather to approximate to the order of nature, when it is possible, because it is the means which will best insure success.

Decided in my preference, my discovery wanted nothing but to find how it was that artificial delivery, although prompt and easy, was more dangerous than natural labour, in which little assistance is given, although longer and more painful. The knowledge of the functions of the uterus after delivery contributed not a little to

lead me to the discovery of the cause. We know that as soon as the foetus and the placenta are expelled, in the one as well as in the other delivery, the uterus pours forth blood in a full stream, and so gives issue to the whole of that contained in its body; hence, if in virtue of its natural tendency to contract, it does not do to a considerable extent on itself, and, if it does not diminish in proportion to the openings of the vessels by which the blood escapes, or if, from whatever other cause it may be the uterus does not contract so far as to compress the vessels, blood continues to escape in abundance, and the woman falls into one fainting fit after another, and dies soon after her delivery.

This mechanism, approved by anatomy and recognised by experience, we shall illustrate by putting the two kinds of delivery in comparison, in order to judge in which of the two the contraction of the uterus is made with greatest certainty, supposing in both instances the patients equally enfeebled by loss of blood.

Natural delivery consists in the gradual expulsion of the foetus by the uterus, and when nothing but the natural pains are concerned in the operation, together with the efforts which accompany them.

Artificial delivery, which is more subjected to the will than to the laws of nature, is effected without reference to the pains, and without a considerable dilatation of the os uteri being attained. We accomplish by the hand the separation begun by the hemorrhage, and enter the uterus very quickly, in order to extract the foetus and placenta more promptly than would otherwise be possible.

In natural delivery, if the pains continue and increase, and the foetus reaches the os uteri when it engages itself, it is certain that the uterus is contracted at its base in proportion to the progress of the foetus towards the orifice. The proof of this is in the fact, that the shrinking or contraction of the body of the uterus is the immediate cause of the pain, of the expulsion of the foetus, and of the dilatation of the os uteri.

In artificial delivery, one is almost always certain of extracting the foetus from the uterus in a very short time, but never certain of its contraction to the degree necessary to arrest hemorrhage.

In natural delivery we have often the satisfaction of seeing the hemorrhage cease when the pains increase to their extreme degree. The uterus then contracts on the foetus in order to make it advance, and is even itself compressed in consequence of the solidity of the body which it contains, and which it forces from behind forwards. This double compression of the uterus by the foetus, and of the

foetus by the uterus, must seal, hermetically, the mouths of the vessels placed between the two bodies, which are not only in contact, but which, during pregnancy, rub the one against the other.

By artificial delivery, we sooner enable the uterus to contract on itself, by extracting the bodies which keep it passively distended; but we cannot communicate to it power, nor proportion its contraction to its weakness, by slow and measured degrees. On the contrary, this organ, deprived of assistance without as well as within its cavity, would require of itself to recall its peculiar powers to an immense extent in order to contract so far as to constrict the vessels and diminish the effusion of blood; that is to say, after this operation the uterus should, on the instant, make ten times greater, or even more, way towards contraction, than it could in an hour or two of natural labour. And as there is a want of the power necessary to perform so great a process, the blood lost before and during the performance of the operation being much more calculated to enfeeble than to invigorate the uterus, it is not surprising to see blood discharged by vessels remaining widely open in the fundus of an organ without action, perhaps even as much dilated as before delivery; and also to see a woman perish soon after the performance of an operation intended to save her.

The parallel thus drawn in exact accordance with truth shews clearly, that almost every woman should be saved by natural delivery where it is possible to induce it; and that much fewer should escape by forcible delivery, seeing that so many dangers attend it.

Whatever advantage delivery by the natural powers may appear to have over that by force, I would not advise its preference, if I had not found a way of depriving it of an inconvenience which had led to its abandonment. I allude to the slowness with which this natural operation usually terminated,—a slowness which gives time to the blood of the whole body to escape, and perhaps permits of both mother and child perishing before the end of the labour. It was this which led our predecessors to practise forcible delivery and to employ a doubtful means than not have recourse to any.

The means of remedying the slowness of natural labour is to borrow something from forcible delivery, and experience has often shewn me the practicability of this. It consists in increasing the dilatation of the os uteri with the fingers, in the same order, and with as much gentleness, as nature usually employs in ordinary cases. It is rare that the loss of blood, caused by the separation of some portions of the placenta, does not cause the os uteri to open more



or less. The quantity of blood intercepted at the orifice, and the clots which it there forms in consequence, resemble so many wedges, which dilate it, and dispose it to yield to the weight of the bodies which the uterus contains. This commencing dilatation determines delivery, and slight pain sometimes accompanies it; but as the weakness, and even faintings, which are common symptoms of hemorrhage, are frequently obstacles to the continuation of the pains and the expulsive action of the uterus, we are obliged to excite them when wanting, and to increase them when too feeble. In order to effect this, one or more fingers must be introduced into the os uteri, and we endeavour with them to open it, by the exertion of a degree of force proportioned to the resistance. This gradual dilatation interrupted from time to time by periods of repose, excites the pains, puts the uterus into action, and the one and the other cause the membranes which contain the liquor amnii to swell; and then the attention should be directed to the rupture of them as early as possible, in order to procure the discharge of the liquid they contain, which now diminishes the size of the uterine cavity, and thus admits of that organ contracting on itself by invading the space occupied by it in its cavity. The uterus thus contracted, and tending to be more so, forces the fœtus from its fundus towards the os uteri, which excites stronger pains, to which also are added voluntary and involuntary efforts. The pains and these efforts being taken advantage of by the patient, and seconded by the action of the fingers carried round circularly within the os uteri in order to dilate it, most commonly succeed, and cause the fœtus to advance. The blood which was escaping is now retained in the vessels, by the general pressure and contraction of the uterus; nature and art concur together in order to promote delivery, which ensues in short time; and we have almost always the satisfaction of saving both mother and child, which, by natural labour would have been inevitably lost, and by a forcible delivery would have been in extreme danger.

It is then possible, on many occasions, to re-excite by this operation, a natural labour, which, by reason of some sudden accident, would have to be terminated by forcible delivery. But as this method may, perhaps, appear to be founded more on theory than on experience, if it were not accompanied with cases, I shall now cite some to convince those who otherwise would think differently.

A lady in her sixth month of pregnancy had, some years before, a very violent hemorrhage of blood, and her os uteri was tightened at its

and faintings which accompanied the discharge made me fear for her life; I therefore determined to deliver, although she had no pain, because of some preparatory signs which I discovered, and of an apprehension that delay would occasion greater danger. The patient took those spiritual precautions which ought always to precede an operation so liable to accidents. As she endeavoured to give the last signs of her piety, there came on slight pains, and I managed to increase them by the means I usually employed, and by their action the membranes soon projected into the vagina. The escape of the water strengthened the pains, the labour progressed, and I delivered her of a living child, followed by no accident.

I have put this mode in practice in the cases of many poor women, in whom I found sufficient strength to warrant leaving it to nature, by the way of assisting a little, and always with success.

A lady in the *rue de vieille Monnoye*, exhausted for a long time by many premature deliveries, was at the term of a pregnancy, which, till the moment I was called, had been very promising. She was bathed in her blood when I arrived at her house, at eleven o'clock at night. She was much frightened at her state, (but did not feel any pains), as she perceived the discharge of blood momentarily increased. I was, at bottom, little more assured than herself, having always dreaded the result of such cases; however, after having examined into the state of the matter, in order to be guided to the proper course, I perceived that in assisting the dilatation which the os uteri had undergone, because of the hemorrhage, I excited pains; I therefore continued the movements which caused them to increase, and having allowed the liquor amnii to escape, the labour was so accelerated that delivery was accomplished happily for both mother and child, in the space of three quarters of an hour.

In 1737, I was asked to go immediately to Maisons, a village near Charenton, to see a woman who had a very violent hemorrhage, and who was at the term of her pregnancy. Having gone with all possible speed, I found the patient in an almost continual faint, and she only rallied so far as to express, in broken syllables, her danger. As every thing had been arranged, I had nothing more to do than to examine into her state. I found the os uteri dilated to about the size of a shilling, and the patient had very few pains. The blood which she had lost, and which she still continued to lose, added to the hardness of the os uteri, made me fear that I would not be able to put my method in practice, and that I would be obliged to have recourse to forcible delivery, the result of which I



dreaded. But, re-assured by the cheerfulness and courage of the patient, which re-animated her on my arrival, I made the os uteri yield by degrees. The pains became stronger, and the membranes which heretofore were closely applied to the head, projected into the vagina. It was only, however, after an hour that the membranes projected so far through the os uteri as to admit of their being ruptured to allow the liquor amnii to escape. As soon as the uterus was relieved of this fluid, it began to contract strongly, and in consequence the foetus advanced, the discharge diminished, and pains so efficacious were excited, that the woman was shortly afterwards delivered. I sustained her strength with spoonfuls of panada given frequently, alternately with Alicant wine. The child was born alive, and the woman continued well since her delivery.

In comparing the success of the dangerous labours which I have thus been able to commit to the care of nature, with the unhappy results which but too frequently follow forcible delivery, I do not hesitate to give the preference to the natural mode, when the situation of the foetus permits of its being followed, seeing that it is the most certain, and most conformable to the laws of labour. This means gives also a further advantage, for, if the mal-position of the foetus, or if the symptoms are so pressing as to require the time to be given to natural labour to be hurried, that which is done to hasten it serves to prepare, and to dispose the os uteri to yield to a dilating force more violent and more prompt, and to render the delivery less painful. This was the case with a poor woman, some years ago, in the seventh month of her pregnancy, who had a frightful discharge of blood, and who had so frequent fainting fits, as to occasion a fear that she could not but perish before she could be succoured. I was called with M. Gervais, my colleague, and the case seemed to us so serious we did not think it proper to proceed, until the woman's desire of having matters arranged should be satisfied. I left her a few paces during this time, leaving my colleague near her, and who was experienced in this kind of labour. Having returned in a short time, I found that the operation had been performed, and the woman in a promising state. M. Gervais told me that having done his best to re-excite the pains, and to dilate the os uteri gently, he was constrained by a discharge of blood so abundant, that he had not the courage to leave her to the efforts of nature, and, profiting by the commencing dilatation, penetrated into the uterus, and extracted the foetus. This operation did not succeed the less that he had previously attempted the natural method.

In 1798, a lady in the seventh month of her pregnancy, who had borne many children, of which she had been happily delivered, was at a supper party at the *Pont-tourant* of the Tuilleries. Having already reasonably satisfied her appetite, all of a sudden she felt herself so wet as to alarm her. She rose from the table in order to retire to the porter's room, to satisfy herself of the nature of the discharge, and she became much alarmed when she saw it was blood, and that with each instant the discharge augmented. The question was now how to regain her home, and the means of carrying her thither was some time debated. The shortest was that of which she availed herself, viz. her carriage, into which she was put in a half recumbent position. As it was not possible to prevent the jolting of the conveyance, although it was driven quietly, there was much blood discharged during the journey, as not only to saturate her petticoats, but also to penetrate to the cushions of the carriage. Having at last reached home, and being carried to her apartment to be put to bed, some clots were observed to fall in undressing her, and this lead to fainting, of which I was a witness almost as soon as the servants, by the diligence they used in coming for me. As there was some pains with the hemorrhage, I found the os uteri dilated to about the size of a shilling. This was just the case in which to profit by this dilatation in order to practice forcible delivery, but being more inclined to excite natural labour, I, by little and little, dilated the os uteri; this roused the pains, and by this means the membranes came to present in the form of a tumour. I ruptured them as soon as it was practicable, and the discharge of the liquor amnii strengthened the pains. The uterus then shrunk together, or contracted on itself, and made the foetus advance towards the os uteri. From this time the hemorrhage diminished, and as the labour continuing, it altogether ceased, the delivery being effected about an hour or so after the discharge of the liquor amnii. The child was dead, but the patient soon revived, gradually recovered, and is now well.

In the same year, a lady who trafficked in diamonds, and who was in the ninth month of her pregnancy, was suddenly deluged in bed with blood. She was in the country about twelve leagues from Paris, and I was called to her. Not finding any sign of labour, I made her be bled in my presence, and prescribed a second bleeding for the next day, or even for the night of the same day, if the discharge required it. I also ordered the patient strictly to keep her bed, to move as little as possible, and to live on a regimen suitable to her situation. Next day the discharge was arrested, but in five

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days after its first suppression it re-appeared, on which she was bled as before, and with the same success. Two months passed without any accident, and this induced the patient to resolve on coming to Paris in order to be confined there, where her mind would be more at ease than in the country. I consented to the journey provided it was made in a litter, as had been arranged. She arrived at home without accident, and took to bed with the design of keeping it until the time of accouchment, but some days afterwards the discharge reappeared, accompanied with some slight pains, and this led to me being called. After having examined whether these symptoms were not indicative of the commencement of labour, I found the os uteri so dilated as to make me think the delivery would determine itself. I made pulettes of blood be drawn, after which the pains became too feeble to act of themselves, I therefore endeavoured to assist nature by my method. The os uteri being extremely hard, for a long time resisted my efforts to make it gradually dilate, and from time to time fainting supervened, but with the return of the pains it ceased. At last I perceived the membranes, the liquor amnii discharged itself, after which the pains increased in strength. In proportion as the labour advanced the discharge diminished, and the patient regained strength and courage. The efforts made on her and my part terminated the labour in three quarters of an hour. The child alive, and the mother restored to health in a short time.

It is proper to point out to young surgeons that the discharges of blood which occur to women from the sixth or seventh month of pregnancy to the term of accouchment, are liable to return, although arrested by bleeding and the other means employed for this purpose. The reason is that the discharges being more commonly caused by the separation of some portion of the placenta, than by ruptured vessels in some other part do not cease but by clots arrested at the open mouths of the vessels, and not by a species of adhesion or re-union of the parts divided by accident. We should not then flatter ourselves that the clots, in the form of plugs at the open extremities of the vessels, can long hold out against force exerted, or, in other words, the impetuosity of the blood, which but too often throws them out, without deeming it prudent to avert by a proper prognosis made in the first period of the discharge, the possibility of its return notwithstanding the precautions adopted, the danger of a similar accident, and of the necessity we may find ourselves in of proceeding to deliver, either by force, or by natural labour assisted by art, as just demonstrated.

ON

BIRTH AND CONCEPTION.

BY

WILLIAM HARVEY, M.D.

REPRINTED FROM THE TRANSLATION OF THE CELEBRATED DR. KNT, AS A  
MONOGRAPH FOR THE BRITISH RECORD OF OBSTETRIC  
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## EDITORIAL NOTICE.

WE offer no apology for the introduction of the illustrious Harvey's work on Birth and Conception, among the Monographs of the British Record of Obstetric Medicine, &c. We believe it will be acceptable, and particularly so as we give Dr. Ent's translation, as it originally stands, in order that it may be compared with the translation by Dr. Willis, for the Sydenham Society. Dr. Willis states, that the early translations were so incorrect that he could not adopt them, and, therefore, translated it afresh; *this may be true*, but he gratuitously gives an opinion that may reasonably be disputed. Dr. Ent was the bosom friend of Harvey, and also his literary assistant; Dr. Willis must have overlooked the fact that Dr. Ent accompanied Harvey to Amsterdam, to correct the sheets of his Latin edition, published in 1651. There can be little doubt also, that Dr. Ent published the translation, (generally called his, in 1653,) and the only reason Dr. Willis has for thinking otherwise is, because Dr. Llewellyn wrote a poetical eulogy for the work, therefore Dr. Willis supposes he translated the work also.

It must be remembered, Ent's translation appeared three or four years before Harvey's death, and, as that great man worked almost to the last day of his life, it is certain that if the translation had been published without his sanction, or had been incorrect, the world would have been apprised of it. However, no such contradiction or correction exists, but, as if to confirm it, Harvey leaves a legacy to his friend and literary assistant, Dr. Ent.

Dr. Willis appears to have translated the quarto Latin edition, which is not the accredited one of Harvey. The one published at Amsterdam, in 1651, watched over and corrected by Harvey and his friend Dr. Ent, on the spot, must, after all, be the received doctrines of the man. If modern translations differ from these, the differences *are the translator's, not Harvey's*, and it is only fair the world should see the doctrines *of Harvey, not of his translators*.



Again if the reader will compare Ent's translation with the modern one of the Sydenham society, they will find it so very similar, (except in the modernizing of the language,) that it will surprise every sensible person why Dr. Willis should have wasted so much of his time, and the society so much money, to translate what only wanted the terms modernizing. To do justice to Harvey and Ent, we give this Monograph in its original style, in order that the doctrines may not be mis-stated.

We trust these reasons will justify us in advocating Dr. Ent's translation and the original edition of 1651.

We believe the edition of 1766, by the Royal College of Physicians, contains other views than those of Harvey, and, therefore, ought to have been kept separate.

Dr. Ent had no object but to promulgate the views of Harvey; but a century after, the motives might be widely different, and a trifling mis-statement alter materially the sense of the argument.

In conclusion, the books on Birth and Conception contain all that is directly valuable to the Obstetrician, and we hope their republication will be appreciated.

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## OF THE BIRTH.

After the generation, the birth succeedeth, by which the foetus comming into the world, doth enjoy the outward aire. Whereupon we conceive it convenient to speak something concerning it. And therefore (with Fabricius) we shall consider the causes, manner, and times of birth; as also those things which are precedent and subsequent thereunto.

Those things which are incident a little before the birth, and especially to women, presaging the approaching delivery, are in part the preparation and disposition of the childing woman, whereby she may bring forth: and in part the scite, or proper position of the infant (De form. foetus c. 9. pag. 140.) in order to the birth.

As concerning the position, Fabricius saith, (The position of the foetus in the womb,) that it is of a conglobated and inflex figure,

lest the foetus, by his extreame and eminent parts, might injure the womb, or the containing membranes : and likewise that so he may be comprehended in the lesser roome. But I am not of opinion that the foetus doth still observe the same scite or posture of his members in the womb (for the fore-scited causes). For he swimmeth in a water, and moveth himself to and fro, he stretcheth himself, now this way, and anon that, and so is variously inflected, and tumbled up and down ; in so much that sometimes being entangled in his own navel-string, he is strangely insnared. True it is that all animals, while they lye still and sleep, do for the most part draw in, and contract themselves, and direct themselves toward an oval or conglobated figure. So likewise embryo's, which pass their time most in slumbers, do compose their bodies in that posture wherein they are formed : (as being the most natural, most easie, and most advantageous for their sleep). And therefore the infant in the womb is commonly found, with his knees drawn up to his belly, his thighs bent backwards, his feet hanging down, and his hands elevated to his head, whereof the one is placed about his temples or ears, and the other at his cheek ; in which parts there are white spots discovered in the skin, as being the signes of his confrication : his spine is bent round, and his neck being inflected, his head hangs neer his knees. The embryo is scituated with that position of parts, wherewith we commonly apply ourselves to rest, with his head uppermost, and his face directed towards his mothers's spine. But a little before his birth, his head being bent downwards, he dives towards the bottom, and the orifice of the matrix (as if he were seeking his way out). So Aristotle : (Hist. an. 2. c. 8.) All animals do naturally come into the world with their head formost ; but those that lye cross, or come with their heels formost, are unnatural births. But yet this is not constant in all animals, but according to their severall site or position in the womb, so is their birth various ; as in bitches, sows, and other multiparous animals. And the great-bellied women know full well, that even the human embryo doth sometimes acquire a different scituation ; when they find the child kick sometimes above, sometimes below, and now on this side, and at other times on that.

*The Matrix.*—So also the matrix being neer delivery, doth bear down, groweth soft, and openeth its orifice. The waters also, as they commonly call them, are gathered, that is, a certain part of the chorion, in which the fore-said humour is contained, doth usher in the foetus, and slide down from the matrix into the vagina, or sheath of

the womb: and the neighbouring parts also are loosened, and ready to distend: also the articulation of the holy bone, and the share-bone to the hanch-bone (which copulation, or articulation is by synchondrosis, or a gristly ligament) is so softened and loosened, that the foresaid bones do easily give way to the parting infant; and by gaping open, do amplify the whole region of the hypogastrium, or lower belly: And when these things are in this condition, it is certain that the birth is at hand. And that so the foetus (like a ripe fruit) may come forth into the world, nature makes this provision of dilating the parts: as she likewise concocteth the milk which is sent before into the breasts, that the infant now ready to be born, may have his entertainment ready to wellcome him, being now to be sustained from without. And these are the fore-runners of the birth. Wherefore the milk is counted amongst the chiefest signes of an imminent birth: I mean such milk, which both for store, plenty, and consistence, is convenient to feed the child; which (according to Aristotle) is never so qualified but neer the time of the birth, and therefore is never found before the seventh moneth.

Fabricius (Gen. an. l. 4. c. 8. & l. 7. c. 5. pag. 141.) concludeth upon two queries, chiefly in order to the foetus: namely, how the birth is, and when? the last whereof relates to the time of bearing, the first to the manner of the birth itself.

The times of bearing, are by Aristotle (De gen. an. l. 4. c. 4. & ult.) conceived to be various. There are, saith he, peculiar times of bearing to all kind of animals, for the greatest part as long as they live: for the race of animals which is longer liv'd than others, must of necessity be more durable. But the magnitude of the animals is by him assigned as the chiefest cause of the variety of the times of bearing. For, saith he, the great fabric, either of animals, or any thing else, cannot be easily absolved in a short space: wherefore mares, and those animals that are of kin to them, though they live but a shorter time, yet they are longer in bringing forth: and therefore the elephant (as they say) is two years in her production, because of its excessive magnitude. But every animal hath certain bounds of magnitude, which it cannot exceed: and therefore they have a definit matter, out of which they are made; he addeth moreover: But there is exceeding good reason, why animals do receive the dimension or measure of their times of ingravidation, generation, and their lives also by certain circulations. Now I call a circulation, a day, a night, a moneth, a year, and all those times which are described by them, as also the motions of the moon: for

these are the common beginnings of generation to all animals ; for it stands to good reason that the circulations of less principal things should follow the circulations of more principal. And therefore nature hath defined or limited the generation and decease of animals, by their motions.

And as the births of animals do depend upon the revolutions or circuits of the sun and moon, so do their times of coition, and bearing their young vary, and are either more prolix, or breifer.

The time of going with young (saith Aristotle in the same place) is enormous onely in women. For all other creatures have some one time, but a woman hath several, for a child may be borne either the seventh or the tenth moneth, and likewise in the moneths intervening between the seventh and the tenth ; for they that are borne in the eighth moneth, though they do seldom live, yet they may live. Diverse animals have indeed a set time of bringing forth, and specially in the spring, when the sun returnes ; diverse in the summer, and some in the autumn, as the gristley fishes. And hence it happens, that when the time of bringing forth approacheth, they direct themselves to their wonted places, where they may safely build their stalls, or nests, where they may bring forth, cherish, and sustaine their young.

Hence it is that those winds which blow about the beginning of the spring are called *Ornithiæ*, namely, from the comming or flocking in of the birds which, about that time, do by the help of those winds arrive at certain usual places. And Fishes also, which swim in shoals many hundred thousands together, do conspire to meet in such particular parts, and at such set times, to spawn and cherish their fry.

And likewise in the spring, so soon as ever the cankerwormes do appear, (whose seeds are for the most part carried about by the winds like invisible atomes, and are not begotten as people commonly believe, either of their own accord, or out of putrefaction,) the trees do presently shoot forth their buds, which are to become the sustenance of those creatures ; and they themselves also are pursued by small birds, and conducted into their nests, to be devoured by their young.

So that whensoever we see unusual kinds of these cankerwormes, we do likewise meet with several sorts of forraign little birds, which are seldom seen at other times, (as if these birds did pursue them from remoter nations) and they both lay about the same time. Physitians, upon sight thereof, do presently prognosticate now

diseases to ensue. The bees do swarm in May, when there is plenty of mellifluous dew; the waspes in summer, when the fruits grow ripe; as the viviparous productions fall out, when they have convenient milk in their dugges, or udders. But other animals, which inhabit the same country still, and do not shift their region, have their customary times of bringing forth, and the supply of their food ready for them at set and appointed seasons. By which means it comes to pass that the husbandmen do calculate the seasons for tilling the ground, sowing, and harvest, by the approach of certain birds, and chiefly from the conflux of, and number of, rooks. And yet there are some animals, whose times of bringing forth are various and incertain, as it is usuall with the greater part of domestick animals, for they do celebrate their coitions at several times, and also bring forth young so too, by reason of the plenty they live in, and disorderly lasciviousness, which is besides the course of Nature. But yet such animals (as women also) have more difficult and more dangerous teemings.

Some kind of creatures, which do more observe the revolutions of the moon, do celebrate both their coitions and productions at any time of the year whatsoever, as conies, mice, and women. For the moon is said, (according to Plutarch, Sympos. l. 3. qu. 10.) to conduce much to the expedition of the delivery when she is in the increase, because she then, by suppling the humours, doth mitigate the paines. Hence I conceive the names of Locheia, which signifieth the President of the Birth, as likewise of Eilytheia or Lucina, were bestowed upon Diana, for Diana is the same with the moon.

Other animals, saith Pliny, (L. 7, c. 5.) have a set time of bearing and of production, but men are begotten at no certainty, all the year long. For though there be a set time designed us by nature, yet there doth sometimes arise a vast difference, so that some have been reported to bring forth at the seventh moneth, and others at the fourteenth. And though Aristotle writes (Hist. an. l. 7, c. 4,) that those which were borne in Greece the eighth moneth did generally die, yet he confesseth that in Egypt, (Hist. an. l. 7, c. 4,) and some other countries, where the women bear very well, they did survive. And though he saith that none can possibly live who are born before the seventh moneth, (but the seventh moneth is the beginning of a ripe and mature birth) yet most who are then born are infirm and weak, and therefore the people wrap them up in wool. He nevertheless doth acknowledge that such may live.

Franciscus Valesius relates—in his Epistle de Incerto tempore

partus—that in his time a girle which was borne the fifth month, did live to enter into the twelfth year of her age. Adrianus Spigelius recordeth the story of a certain carrier, who did shew it under the public notaries hand of the town of Middle-Burgh, that he was borne in the beginning of the sixth moneth, but so little and weak in his body, that his mother was forced to roule him up in cotton untill he had gained strength, whereby he was enabled to endure the swath. And Avicen also reports (L. 9, de nat. an. cap. ult.) of one who was borne the sixth moneth, that lived healthy. So also that some who were borne after the eleventh moneth have lived is approved by the testimonies both of the ancient and modern writers. Massurius, (saith Pliny, in the fore-cited place,) writes, that L. Papirius the pretor, when the second son sued for the inheritance, did cast him in law, though his mother did affirm that the eldest son was born in the thirteenth moneth; because there seemeth to be no certain time allotted for bringing forth. There was a woman not long since amongst us, which kept a child within her above sixteen moneths, and perceived him to bestir himself in her womb, above ten moneths (as many did evidence) and yet at last she brought him forth alive. But, I confess, those are rare accidents. And therefore Spigelius doth reprehend Ulpian the lawyer without cause, in that he admits none to be legitimate heires that are borne after the tenth moneth. For laws and rules of art, are for the most proportioned or fitted to the actions of life, which are rightly ordered.

Besides, it must not be denied, that there are many crafty, fraudulent women, which for lucre sake, or for fear of punishment or infamy, will feign and swear they are with child. And likewise it is well known, that others are easily deceived, and being inexperienced in the matter, do conceive themselves to be with child, when it is no such thing. And to this purpose are those words of Aristotle. The conception of those infants which are borne after the eleventh moneth seemeth to have not been exactly known to the women who are with child, for the women do not know when they first conceived. For their wombs being possessed with flatulencies, and they afterwards conceiving a child upon coition, conceive that flatulency to have been the first beginning of their conception, because they then had some usual indications, as do accompany such as do really conceive. And we have also at other times known, that after three or four moneths space, the former conception dying in the womb, and putrifying, and the corrupt matter

(like to putrid after-purgings) flowing forth, a superfœtation hath happened : and yet the same women have constantly affirmed that they have been delivered of a child after the fourteenth moneth. It falleth out some times, saith Aristotle, that after one abortment, tenne or twelve succeeding infants which have been conceived by a superfœtation, have fallen from the mother. But if the mothers have been delivered in some short time after, they have brought forth that child which was begotten by a superfœtation : and so they bring them forth, like those children which are born twinnes; as the fable runs of Iphicles and Hercules. And this hath been already found to be so. For a certain aduress brought forth two children, one like her own husband, and the other like the adulterer. And likewise, a certain woman, a long while since, having twinnes within her, did conceive a third child also, so that when the time of her delivery was fully come, she brought forth the the twinnes in their just time, and they were perfect; but the third was but of five moneths time, and so he died instantly.

A certain servant-maid being gotten with child by her master, to hide her knavery, came to London in September, where she lay in by stealth; and being recovered again, returned home; but in December following, a new birth (for she had a superfœtation) did proclaim the crime which she had cunningly concealed before.

It happened to another woman, (as Aristotle proceedeth) that when she had brought forth one child in the seventh moneth, she was after two moneths end, delivered of two more, whereof the first child died, but the twins survived. Likewise some women that have suffered abortment, have conceived two children at the same time, whereof the one hath been aborted before the time, and the other hath continued the full time, and been brought forth perfect.

For it is an easie matter, that the first, or last conception, which is conceived by a superfœtation, being ejected after the third or fourth month, the following moneths may be reckoned more or less then they ought to be, especially by credulous or unskilful women.

I have sometimes known the conception to perish in the womb, and being turned into putrid matter, to have glided and issued forth; (like the flores albi) and this both in women and other animals. There was not long since a woman in London, which after such a kinde of abortment, did conceive again, and was delivered at the just time. But a little after, as she went about her worke, being not in any great paine, or distemper, she did eject by poices

the black little bones which related to her former abortment. Some of these bones were brought to me, which I could discover to be the fragments of the spine, the bone of the thigh, and of other bones.

I know a young woman, who was the daughter of a physitian, who was of my neer acquaintance, which being big, felt all the symptomes incident to women in that condition; and continuing healthy and sprightly, after the fourteenth week she perceived the motions of a foetus in her womb; and having finished her time for going with child, conceiving the hour of her delivery to be nigh at hand, she had her bed furniture, her cradle ready, and all the implements appertaining to the purpose laid out for use. But all these preparations came to nothing, and Lucina was cross to her wishes; for her customary paines quite left her, and her belly as it rose by degrees, so it sunk againe, and she never sicke for the matter, but she remained barren ever after.

I also knew a noble matron, who had borne above ten children, and whose courses were never suppressed unless she were with child. But being afterwards married to another husband, besides other usual signes, she apprehended herself to be with child, by the stirring of it, (which both she herself, and her sister also, who then lay with her in bed, did many times in the night perceive) and all the arguments I could suggest, could not remove that perswasion from her; till at the last, all her hopes vanished into flatulency and fatness.

So that sometimes, the most approved signes of ingravidation, have not onely deluded the silly women, but the experienced midwives, and the skilful physicians themselves. Wherefore, since besides the deceits of women themselves, there are several false indications of gravidation, we must not rashly determine of the inordinate birth, before the seventh moneth, or after the eleventh,

The ordinary computation of going with child, observeth that time which our blessed Saviour, the perfectest of all men, did fulfil in the Virgin's wombe: namely, from the day of the annunciation, which is in March, to that blessed day of the nativity, which we celebrate in December. And according to this rule, the sager matrons keeping their account (while they cast in the wonted day in every moneth, whereon they were accustomed to have their purgations) they are seldom out of their reckoning; but, ten revolutions of the moone being expired, they are delivered, and reap the fruit of their wombe, upon that very day whereon (were it not for their prægnation) their purgations would ensue.



As concerning the causes of the exclusion or delivery of the foetus, Fabricius, (*De usu part.* l. 15. c. 7.) besides that given by Galen, wherein he delivers, "That the foetus is so long continued in the wombe, till being now enlarged and made perfect, he is capable of being sustained at the mouth; by which argument, the weaker sorts of foetus ought to protract their continuance in the wombe, which yet is no such matter;) conceives the other reason, and that the more rational one too, to be the necessity that the foetus standeth in of more large refrigeration procured by respiration; because the foetus, so soon as it is borne, doth presently respire, but doth not so soon feed. And this, he affirmeth, is not onely observable in men and beasts, but chiefly in birds; which though they be small, and have yet but a tender bill, yet will the chicken peck that part of the shell where they stand most in need of respiration; which thing they doe, oeing more streightned for breath than aliment; seeing that immediately as soon as they are escaped out of the shell they doe respire, but abstaine from meat two or three days together.

But whether respiration be instituted for refrigeration, or for any other use, we shall more largely debate elsewhere, out of our observations.

In the mean time I shall propose this problem to the learned: namely,—How the embryo doth subsist after the seventh moneth in his mother's womb? when yet in case he were borne, he would instantly breath; nay, he could not continue one small hour without it? and yet remaining in the womb, though he pass the ninth moneth, he lives, and is safe without the help of respiration. I shall deliver it yet more plainly. How commeth it to pass, that the foetus being now borne, and continuing yet covered over with his entire membranes, and abiding still in his water, can subsist for some hours space, without any danger of suffocation; and yet being shifted out of those membranes, if he have but once attracted the aire into his lungs, he cannot afterwards live a minute without it, but dyeth instantly? Doubtless this is not for want of refrigeration; for in a difficult delivery, he sticketh fast in the streights without any respiration, sometimes for some hours together, and yet we find him alive; but yet so soon as he hath escaped, and tasted the vital air, if you deprive him of it, you destroy him in a moment. So likewise in the Cesarean section the infant is taken out of his mother's wombe many hours after his mother's decease, and yet he is found alive, and continueth safe without the use of

aire, though he lye intombed in the secundines: but having once attracted the aire (though you instantly restore him to the secundines again) he will expire for want of breath. Whosoever doth carefully consider these things, and look narrowly into the nature of aire, will, I suppose, easily grant that the air is allowed to animals neither for refrigeration nor nutrition sake. For it is a tryed thing, that the foetus is sooner suffocated after he hath enjoyed the aire, then when he was quite excluded from it; as if the heat within him were rather inflamed than quenched by the aire.

But thus much we have discovered by the way concerning respiration; being perhaps resolved to discuss the debate more fully in its proper place: then which disquisition you shall hardly meet with a more nice; for it is debated with arguments of almost equall weight on both sides.

I return to the birth, which Fabricius conceiveth to come to pass (besides the fore-mentioned necessity of respiration and want of sustenance) because the foetus being grown bigger, doth press out by his weight; and also can be no longer contained within by reason of his large bulk; and likewise, saith he, the excrements are so multiplied that there is no longer place for them in the membranes. But we have already proved that the humours in the womb are not excrementitious. Nor is the reason deduced from the weight and magnitude of the foetus more available then the former: for the foetus swimming aloof in the humours is scarce any burden at all to the after-birth or womb; for some infants of nine moneths are very litle, and less then some others of eight moneths onely, yet can they no longer subsist in the womb. And as to the weight, twins of eight moneths do preponderate any one single foetus whatsoever, though of nine moneths abode in the womb, yet are they not born till the nineth moneth. Nor can we quarrel at the scarcity of aliment, since at that time there is entertainment enough even for twins, and sometimes for more infants: and also the milk which is conducted to the breasts of women in child-bed, being recalled to the uterus, would as conveniently supply the foetus in the womb as out of it.

I shall rather impute the cause of being born to the juice contained in the amnion, which being most proportionate to the nourishment of the foetus, doth either much faile or else is depraved by the admixture of the superfluities, as I have also hinted before.

But as for the diversity of going with child, which is contrary to the time allotted by nature, (which diversity doth chiefly respect

women) I do ascribe it to the custome of living, the infirmity of the constitution, and the several passions incident to women. And therefore those tame animals which live amongst us, by reason of their lazy lives and plenty of food, are of more incertainty in their times of coition and production then wild beasts, which live according to natures intent. Likewise sickly women have easier and greater dispatch in their travaile, then others : but it falls out clean contrary to such women whose strength is very much consumed. For the same thing befalls them as happeneth to plants whose fruits and seeds do more slowly and seldom arrive to maturity in cold countries, then to other plants of the same kind which are in a fat and warme soile.

So oranges in England adhere to the trees almost two whole years together before they come to maturity : and figgs also scarce ever arrive at any perfection here, which are ripe in Italy twice or thrice a year. And the like befalleth the fruits of the womb ; namely, the foetus is brought to maturity sooner or later, by reason of the scarcity or plenty of aliment, the imbecility or strength of the body, and the orderly or inordinate regiment of life, according to the six non-naturall things recited by physitians.

Fabricius hath described the manner of the birth, thus : The womb being dilated by the weight of the foetus, in so much so that it can now be no farther distended, and thereupon being excited to disburden itself, is by the motion of the transverse fibres gathered up into itselfe, and so contracted into a narrower compass. And therefore, whereas before neither the excrements, by means of their abundance, nor the foetus by reason of his weight could be contained any longer, the uterus being more streightened and drawn together then it was, can be much less able to contain them, and therefore first the membranes as being the weaker parts, and more distended, do break, and the humour which is most fluxile doth first pass out to make the parts glibbe. And hereupon the foetus followeth, as being not onely increased in his weight (by reason that he now no longer swimmeth in the humour) and so descendeth downwards, forcing the orifice of the womb, but as being also compressed, driven forward, and shut out by the action of the womb itselfe : in which action the muscles of the abdomen, together with the midriffe, are wonderfully assistant.

By which words he describes the ejectment of the excrements of the guts, and an abortion rather than a natural birth ; for though the membranes in women do for the most part break, and so dis-

load the water before the birth; yet that is not always so: for other animals do not bring forth as they do, but produce the entire conception together (namely, the *foetus* together with the *secundines*), as we may observe in ewes, mares, bitches, and other animals: and especially in the viper, which doth conceive within an egge which is of one onely colour, having a soft shell (such as the humane conception is) and continueth that conception so long within her until a *foetus* be formed thereout, which she doth produce wrapped up in a membrane, which membrane, according to Aristotle, is broken up the third day. And yet it so happeneth sometimes, that the young ones are produced, having eaten through the membranes, while they are yet in the uterus.—(Hist. an. l. 5. c. 34.)

And so also it is no novelty to experienced midwives, that their women do sometimes bring forth their conceptions whole and entire, without any breach in the membranes at all. And this kind of birth seemeth to me the most natural, wherein the *foetus*, (like a mellow fruit which droppeth from the tree without shaking out its seed before the time assigned by nature,) is born with the *secundines* embracing it. But where it cometh otherwise to pass, and the after-burden doth adhere to the uterus after the child is borne; it is oftentimes hardly divided from it, and doth induce evil symptoms, which are accompanied with noisome smells, and sometimes with a gangreen, whereby the mother is brought into imminent danger.

Because therefore the birth described by Fabricius is not agreeable to all kinds of births, but onely to women, and not to all their births neither, but to such onely whose births are premature, and as it were forced, it is to be ranked rather amongst preternatural, precipitate, and in some sort, abortive productions.

*Two things required in a natural birth.*—In a natural and genuine birth, therefore, two things are required which are assistant the one to the other, that is to say, the woman in *travaile* and the *foetus* which is to be produced. Both which, except they be ripe for the business, the birth is hardly successful. For if the *foetus* being disquiet, and coveting to be enlarged, doe prevent his parent by exciting her, and offering violence to her womb; or if the mother, by reason of the infirmity of her retention, (as if her womb were disturbed with a kind of nauseousness,) or by some necessity of expulsion, be before hand with the infant, the birth is to be reputed a disease or symptome rather than a natural and critical production. As also when some parts of the conception escape out, and others

are still retaind within, namely, if the foetus attempt a departure ere the after-burden be dismissed from the sides of the womb ; or else the after-burden, on the contrary, be loose from the uterus, the foetus being not rightly composed, nor the uterus relaxed for the accommodation of the work. And therefore the younger, more giddy, and officious midwives are to be rebuked ; which, when they hear the women in travaile cry out for paine and call for help, lest they should seem unskilful at their trade, and less busie then comes to their share, by daubing over their hands with oyles and distending the parts of the uterus, do mightily bestirre themselves and provoke the expulsive faculty by medicinal potions : so that being impatient of a competent expectation by their desire to hasten and promote the birth, they do rather retard and pervert it, and make it an unnatural and difficult delivery ; and leaving the membranes or some other part of the after-burden still adhering to the womb, they do both expose the poor women to the injuries of the aire, and vainly perswading them to their three-legged stooles, weary them out, and bring them in danger of their lives. It is much happier with poor women, and those that dare not own their great bellies, where the midwives' help is never required ; for the longer they retain and retard the birth, the easier and more successfull proves the delivery.

And therefore there are chiefly two sorts of unnatural births ; namely, when the foetus is either born before or after the time allotted by nature, (and this is a kinde of abortive birth) and the birth proves difficult and painful, because it doth not succeed in that manner, and order as it ought to do, or else is hindered by some bad symptomes, which cometh to pass chiefly for two reasons : namely, in that the mother doth faile in her expulsive office, or else that the foetus is himself but sluggish, and so doth not promote his own release ; for a facile and natural delivery relieth upon the endeavour and joint furtherance of both parties.

Fabricius doth ascribe the work of bringing forth to the uterus, to which performance, saith he, the muscles of the lower belly and the midriffe are assistants. But when I consider the matter thoroughly, the throws of the woman in travaile do seem to proceed from the motion and agitation of all the body, (just as we find it in sternutation.) I knew a young woman, which by reason of her extreame torment in her travaile fell into a sowne, and became instantly so consternated, stupid, and sleepy, that nothing could recover her. I being called into her cure (finding that clysters and other proper

remedies had been applied to no purpose, and that nothing could go down her throat) I put up a feather which was dipped in a strong sneezing medicine into her nose, by which being moved (though she was so overwhelmed with a deep stupidity, that she could neither sneeze nor be awaked) she began to be seized by a kind of general convulsion, all her body over, which beginning at the shoulders, did by degrees extend itself to the lower parts. But as often as I applied this provocation to her, her delivery was advanced and came on, and at last, the mother being insensible of it herself, and remaining still in her sleepy condition, a healthy and sprightly child was born into the world.

We may observe the manner of their throwes in other animals: (as in the ewe, the bitch, and in great cattel), wherein we shall discover that it is not by the sole action of the uterus or belly either, but is the joint conflict of all the whole body. And how much the foetus doth conferre to the acceleration and facilitating of his own birth, is chiefly evident in oviparous creatures: for it is apparent that the foetus it self and not the mother doth break through the shell. By which it is probable that in viviparous births also, the chiefest cause of being born is owed to the foetus it self, and that to his industry and indeavour, and not to his weight, as Fabricius conceiveth. For what doth the weight thereof conduce to the birth in four-footed beasts which stand upright, or sit down; or in women, which lye along? nor doth the endeavour of the foetus proceed, as he supposeth, from its largeness of bulk, or the plenty of the water, (the water indeed is the cause of the delivery of the foetus which is dead and putrified in the womb, in that by its corruptions and acrimony it doth extimulate the uterus to relieve it self) but the foetus himself sets open the gates of the womb with his head turned downward, and unlocks their inclosure by his own force, and so struggleth himself into the world by conquest. And therefore that kind of birth is counted the nimbler and more fortunate. But when the child comes into the world thrusting his feet foremost, saith Pliny, the birth is counted unnatural, and those that are so born are called *Agrippæ*, *quasi ægre parti*, born with much difficulty: for their birth is slow and painful. And yet notwithstanding in abortment, and where the foetus is dead, or that there would be a hard delivery any other way, so that there is a necessity of handy-work in the business the more convenient of comming forth is with the feet foremost; for by that means the streights of the uterus are opened as it were by a wedge. Wherefore, when the hope of delivery relieth

chiefly upon the foetus (as being strong and lively) we must endeavour to further his coming out with his head fore-most; but in case the task is like to depend upon the uterus, we must procure his coming out with his feet fore-most.

That the assistance of the foetus is chiefly required in the birth is evident, not in birds onely, which do by their own industry without the help of their parent break up the shell, but also in other animals; for all flies and butterflies, do perforate the litle membranes (in which they did lurk when they were the worme aurelia) and likewise the silk-worm doth, at his appointed time, mollifie and erode the litle silken bagge which he had weaved for his defence and security, and so gets out without any forraign aid; and in like manner wasps, beetles, and other insects, and all fishes, are borne without others helps, as doth chiefly appear in the raie, the fork-fish, the lamprey, and all cartilagineous fishes, which do conceive their egges within themselves, and those perfect ones, and party-coloured, (being furnished with a yolk and white) and conclude in a strong cartilagineous quadrangular shell, out of which, being detained within the belly and the uterus, they do form their young, which, breaking open the shell by force, do get abroad; as also the young vipers, by their erosion of the membrane which containeth the egge, do sometimes in their mother's bowels, and sometimes as they stick in the very passage, and other times at the end of two or three daies after their nativity, expose themselves to the wide world,—from whence that fable that the vipers do eat their way through their mother's bowels, (and so revenge the death of their father), took its foundation: when yet they do no more then all other issues which come into the world, breaking through the membranes which encompass them, either in their very birth it self, or a litle after it.

But how great furtherance the foetus doth conferre to its own birth, several observations doe clearly evince. A certain woman here amongst us (I speak it knowingly) was (being dead over night) left alone in her chamber, but the next morning an infant was there found between her leggs, which had, by his own force, wrought his release. Gregorius Nymmanus hath collected certain examples of this nature out of approved authors.

I also knew a woman who had all the interior part of the neck of her womb excoriated and torne, by a difficult and painful delivery, so that her time of lying-in being over, though she proved with child againe afterward, yet not onely the sides of the orifice of

the neck of the womb neer the nymphe did close together, but all the whole cavity thereof, even to the inner orifice of the matrix, whereby there was no entrance even for a small probe, nor yet any egress to her usual fluxes. Hereupon the time of her 'delivery being now arrived, the poor soul was lamentably tortured, and laying aside all expectation of being delivered, she resigned up her keys to her husband, and setting her affairs in order, she took leave of all her friends. When behold, beyond expectation, by the strong contest of a very lusty infant, the whole tract was forced open, and she was miraculously delivered, the lusty child proving the author of his own, and his parent's life, leaving the passage open for the rest of his brethren who should be borne in time to come. For, proper applications being administered, his mother was restored to her former health.

I shall adde one example more memorable then this. The Queen had an exceeding white mare, excellently shaped, presented unto her, whose genitall parts (lest by going to horse shee might endanger the beauty of her proportions, and become unfit for use) were, as the custome is, locked up all with iron rings. Notwithstanding which, this mare (by what accident I cannot tell, nor could the groomes inform me) was made big with foale; and at last, when they feared no such matter, she foaled by night, and the foale was found alive next morning by the mares side. When I came to heare thereof, I went presently to the stables, and saw both the labia of the lap, which were locked up with rings, and all the privy towards the left side, so torne and dilacerated from the right haunch bone, that the unity of that most tight part being dissolved by the incredible force of the young foale, hee might easily finde a passage through that wide gap. So forcible is the vigour and efficacy of a mature and lively foetus.

But on the contrary, in case the foetus be sickly and languishing, or borne before its time, it is not properly a birth, but an abortment, and the foetus is rather ejected than borne; and therefore, though he be now some days old, he will neither take the breast kindly, nor deposite his excrements as he ought to doe.

And yet the uterus hath its share in this business of delivery, as shall appear in the following example. A poor woman, who was a laundress, did for a long time labour under the bearing down, or precipitation of her wombe, and the sheath thereof did hang down to the bigness of ones fist, and at length, using no applications to it, her grief grew so forcible upon her, that it now begun to re-



semble a scrotum, the skin being rugged and squalid; and yet found now less pain or trouble in it then she was formerly used to find, when it newly bore down. But she asking my advice, I counselled her to keep her bed for some certain days, and to mollifie the dryer parts thereof with fomentations and oyntments, and so when her wombe was reduced into her body, to keep it still up with pessaries and swathes, till by the use of drying and strengthening remedies it was confirmed and settled in its proper place. The cure did for some time succeed to our wish, but she being poor, was faine to fall to her calling again, to get money, and so intermitting her appointed applications, she fell into a relapse, and endured it pretty well, her womb sometimes retiring back again, and sometimes continuing quite out; but for the most part, at night she did reduce it, and there it remained for some time. But after many dayes, she addressed her self to me again, complaining that her wombe being swelled by the use of her remedies, and especially of her fomentations (as she conceived) would now no longer abide in her body. And yet applying some oyntments which I had prescribed, she had forced it in againe, but her cure did not continue long, for no sooner did she rise, and stand upon her leggs, and so goe about her work, but her wombe did presently, by reason of its bulke and weight, disturbe her againe, and would easily beare downe upon any occasion. And now at this time it was as large as a bull's cod, dangling between her leggs, so that I suspected that not onely the sheath, but that the womb it selfe was now inverted, or else that shee was diseased with a uterine hernia, or rupture. It grew at last bigger then a man's head, being then a hard tumour, and hanging downe to her knees did much pain her, so that she could not goe but upon all foure, and breaking just in the bottom of it, it did effund a moisture, as if it had been an ulcer, and blood with it. Looking upon it (for I did not explore it by touch) I did suspect it to be a cancer of the wombe, and therefore did bethink my selfe of a ligature, and cutting it off, and in the interim, I advised her to apply gentle fomentations to it to assuage the paine. But the following night, an infant perfectly shaped, of a span long, was cast out of that tumour, but it was dead, and the next morning they brought it to me, which having embowelled, I kept swimming in cold water without corrupting, for some moneths time, shewing it to many of my friends as a miraculous spectacle. The skin in this foetus was not yet formed, but only a thin paring appeared, such as lieth about a codlin, which I easily drew away whole and

entire; whereupon all the muscles disclosed themselves very distinctly, (for the foetus was leane). What other matters I observed in the dissection of this foetus, shall be related elsewhere; in this place, I thought it onely convenient to signifie how the matrix it self alone did promote this abortive, and did eject this foetus by its owne industry.

Fabricius (de form. foet. page 142) doth propose two things worthy admiration, as he saith, in the birth, and after it: the first is concerning the dilatation of the uterus in the birth, and the other is, of the reduction of the uterus after the birth into its former compass and narrowness; wondering that the womb should be so much distended to make way for the foetus, and that in a short time after delivery it should retire into its pristine dimension.

How the neck of the womb, which is thick, hard, and so shut up that it will not admit a slender probe, should subscribe to so vast a distension in the time of delivery, we may with Galen (de us. part. l. 15, c. 7, page 143,) admire, saith he, but we shall never comprehend it.

Yet he gives this reason for it, namely, that the uterus, while it is not pregnant, is a thick and hard body; so likewise is its orifice; but being impregnated, it becomes soft and thin, and the nearer it drawes to delivery, so much the more is the substance, and by consequence, its orifice too, made thinner and softer. And this he conceiveth to be effected by its distention, which being distended, its compact and complicated body (if he may so speak) is expanded and smoothed, and so, though it was thick and hard before, yet now it is rendred thin and soft, and so consequently fit to afford an exit to the foetus. And afterwards he saith, there was one who once enquired of me how, if it be so indeed, it can be true that in women with childe the orifice of the womb is so occluded, that not so much as a small probe can get into it? I make answer, that it came to be so, in that the womb while it is distended, and is unfolded like a linnen cloth that is compacted and folded up together, doth begin to be raised up first in its upper part, and there to be unfolded, and after it the lower parts do by degrees begin to distend, till at the last that distending faculty doth arrive at the very orifice of the womb it self, which is convenient to be so then, when the uterus is inclining towards delivery. Wherefore the orifice of the womb is deservedly shut for the first months, whilst it is crass and obdurate, but in the last dilated. And thus much touching Galen's unknown cause; we might also adde other reasons, whereby

the dilatation of the womb becometh more easie, as suppose the excrements of the foetus, namely, the sweat and the urine ; which, though they are contained in their own proper membranes and receptacles, yet may the power of humectation arrive even unto this orifice, especially since it is placed below and neer to these humours, being alwaies present with them. Adde also moreover, that a certain mucous and pituitous substance is alwaies found about the orifice of the womb.

But, in my opinion, this worthy man is mistaken, for the neck of the womb is not hard by complication, but of its own essence, and nervous constitution, and likewise, those accidental causes (which he alledgeth) are of litle advantage to this purpose. For, doubtless, this is done by the Divine Providence of nature (as well as the rest of the wonderfull fabrick of the body) which doth direct her workmanship to a certain end, action, and use. The wombs constitution therefore is such, that in the first conception it should have its nervous orifice constringed, for retention sake, which afterwards in the delivery of the foetus (like the fruit in the tree) doth of hard become soft and mellow, for the convenience of expulsion, and that not from any unfolding, but from the alteration of its temper ; for even the connexion of the bones themselves, namely, the synchondrosis of the haunch-bone with the share and holy-bone, and the synneuresis or natural union or coalition of the rump, or utmost end of the os sacrum is dissolved and mollified. It is indeed a wonderfull thing that the little bud of a growing nut—as suppose of the kernel of an almond, or other fruit—should break those bones which a mallet can hardly bruise, and that the tender fibres of the ivy-root crawling along the narrow chinks or crannies of stones, should at large demolish large walls. But it is nothing so wonderfull that the genital parts of women, which are relaxed in the birth, should afterward harden and draw themselves together, because it is natural to those parts ; especially if we consider that the yard of the male is in coition very much stretched and hardened, and anon doth flagge, and soften. We are more to admire (which is beyond all plicature or folding) that the substance of the uterus is not onely dayly amplified and distended, according to the growth of the foetus, as if it were, according to the opinion of Fabricius, unfolded, but doth grow thicker, more cornous, and stronger then before. That indeed is more wonderfull ; yet, as Fabricius admireth it, that the so large bulk of the uterus should in so few dayes space, by the customary purgations of child-bed, return to

its pristine dimensions, since it is not so in other tumours and impostumations; which, consisting of præternatural and digestive faculties, which rebell against the expulsive, are longer under cure. And yet this is no more admirable then the other works of nature; for all things are filled with the Deity, and the God of nature displayeth himself in all things.

In the last place, Fabricius doth most admire that those vessels of the embryo, namely, the oval perforation out of the hollow vein into the venal arterie, and the passage from the arterial vein into the aorta, (whereof we have treated at large in our tract of the circulation of the blood) should presently after the birth wither, and be obliterated, and is enforced to betake himself to that reason cited by us before out of Aristotle (de part. an. l. 1, c. 5) namely, that all parts are constituted for some action or other, and that action being taken away, the parts also themselves do vanish. As the eye seeth, the eare heareth, the braine perceiveth, the stomach concocteth, not because they are endowed with such a kinde of temper and fabrick; but those organs are therefore endowed with such a kinde of temper and fabrick that so they may perform the functions assigned them by nature.

By which argument it appeareth that the uterus is the chiefest of the parts dedicated to generation, for the testicles are constituted for the geniture or seed; but the seed for coition, and coition it self, or emission of seed, that the uterus may receive fecunditie, and so generation ensue thereby.

We have formerly said, that the egge is as it were the fruit of animals, and as it were an exposed womb. Now on the contrary, we shall contemplate the uterus as an egge residing within. For as trees, at set times, do flourish with leaves, flowers, and fruits, and oviparous animals do sometimes generate eggs and lay, but sometimes they grow emerit, and the place or part which did contain them is not to be found, so also viviparous animals have their spring and autumn. At the seasons of fecunditie and generation, the genital parts, especially in females, are very much altered, inso much that the ovary in birds, which at other times is conspicuous, doth then appear something turgid, and the belly of fishes, about the time of spawning, doth much exceed all the rest of their body, by reason of the multitude of their eggs, and affluence of their seed or spawn. In many viviparous animals, the genitals (namely, the uterus, and spermatical vessels) are perceived to be at some times of a diverse constitution, temper, and fabrick, but as they grow

pregnant, or forbear to be so, so do they diversly change, so that a man can hardly know them for the same things. For as in nature nothing is wanting, so there is no superfluity. And therefore the genital parts, when there is no more use of them, do wither, are retracted, and as it were obliterated and expunged.

At the times of coition, the testicles are conspicuous in male hares, and moles, and the horns are then visible in the uterus of their females. It were strange to relate, how great an affluence of seed is then conspicuous in the larger sort of moles, and mice, in which at other times no seed at all is to be seen, but the testicles are extenuated and retracted into their bellies, but when they forgoe impregnation, there is hardly any such thing as a uterus to be perceivd, insomuch that it is a difficult matter to distinguish male from femal.

The womb doth, chiefly in women, exceedingly vary both in temper, as also in those adjuncts which follow the temper, namely, acituation, magnitude, figure, colour, thickness, hardness, and density. Unripe virgins, as their breasts are no bigger then the breasts of boyes, so is their uterus very small, white, of a skinny substance, destitute of veines, and in magnitude not exceeding the top of ones thumb, or a large bean. So also antient women, as their breasts do sink, so have they a retreated, flaggy, lank, pallid, womb, void of veins and blood. Which I also conceive to be the cause why women growing antient have not their monthly termes, but that they descend into the hæmorrhoides, or else do abruptly forsake them, and so endanger their health. But when the womb is now chill, and as it were defunct, and all the veines and arteries thereof are expunged, the superfluous blood, when it boileth, doth either restagnate, or divert its course into the neighbouring hæmorrhoids. But on the contrary, in pale virgins, and such as have the green sickness, (whose womb is slender, and their terms are at a stay) by coition with the male, saith Aristotle, (de gen. an. l. 3, c. 1,) the excrement of the terms is drawn down, for the uterus being tepefied, doth attract the humours, and the passages are opened. Whereupon a vast abatement of their distemper doth ensue, for the womb being unmindefull of his function, many mischiefs do befall the body in general, because the womb is a principal part, which doth easily draw the whole body into consent with it. No man—who is but never so little versed in such matters—is ignorant what grievous symptomes, the rising, bearing down, and perversion, and convulsion of the womb do excite; what horrid

extravagancies of mind, what phrensies, melancholy distempers, and outrageousness, the præternatural diseases of the womb do induce, as if the affected persons were enchanted; as also how many difficult diseases, the depraved effluxion of the terms, or the use of Venus much intermitted, and long desired, do foment. Nor is it less known, how great an alteration doth befall virgins when their uterus doth enlarge, and is tepefied, for they grow mature, and their complexion doth improve, their breasts strut forth, they become more beautifull, their eyes glisten, their voice is more tunable, their gate, gesture, and discourse, are more gracefull than formerly; and their more grievous distempers are at this time, or never, cured.

I knew a noble lady, which was wilde by reason of a uterine melancholy and distemper, for above ten years together, and when all remedies had been in vain employed, she fell at last into the bearing down of the uterus, which accident, contrary to others judgement, I did prognosticate would conduce to her health; and perswaded her not to return her womb, untill its distemper was asswaged by the outward cold aire: the success was answerable to my perswasion, and in a short time she was perfectly cured; and her womb being at last restored to its seat, did remaine there, and she lives a healthy life, even to this day.

I knew another woman, which was troubled with hysterical symptoms, such as no applications could subdue, who at length, after many yeares, was cured by the bearing down of the womb. And both these being relieved in their symptoms, I did restore their wombs to their places with happy success. For the uterus being by any sharp humour excited violently to expulsion, doth not onely gently bear down, but, like unto the right gut when it is irritated by a troublesome tenesmus, doth precipitate it self outward.

Divers therefore is the constitution of the uterus, and that not onely præternatural, but natural also, namely, in the time of fecundity, and barrenness. In young girles, and women past childing, it is (as I have said) of the magnitude of a bean, and without any blood: in a virgin ripe for a husband, it resembleth the bulk and form of a pear; in fruitfull women, and such as are apt to conceive, it is as large as a small gourd, or a goose-egge, and doth likewise swell as the breasts do, and growing more laxe and fleshy, it becometh warme, and as Virgil speaketh of the fields:—

———*Superat tenor omnibus humor,  
et genitalia semina poscunt.*

They all a flowing moisture have,  
And so a fruitful seed do crave.

Wherefore their terms being now at hand, or newly over, whilst the warmth and moisture of the part (which are two necessary causes of generation) do remain, women are most apt to conceive. And so other animals likewise, when they are excited to venery, their genital parts are moist, turgid, and swelled.

And this constitution I have found in the womb before the birth. But in women with child, the uterus (as hath been said) doth extend according to the growth of the infant, and so enlargeth into a vast proportion. I have found it presently after delivery, of the bigness of ones head, and thicker then the middle fingers breadth, and fraught with diverse vessels full of blood. It is indeed a wonderful thing, and, as Fabricius noteth, doth much exceed our humane apprehension, that the so vast bulk of the uterus should so much lessen, in so short a space, namely, in the space of fifteen or twenty days.

For no sooner is the foetus and the after-burden excluded, but the uterus doth by degrees gather it self together, streighteneth its neck, and retreateth itself towards the interiour parts, being partly insensibly abated by a diaphoresis, and partly dissolved into the purgations; and all the bordering parts—the bones, belly, and hypogastrical region—are together contracted, and grow firme againe. In the purgations, first of all pure blood, then corrupt blood, like that water wherein flesh that is newly killed is washed, and then paler blood, doth issue forth; our women doe call it *lactis proven-tum*, the coming of the milke, when their purgations are now no longer died with blood, because, perhaps, the milk doth at that time flow more plenteous, and sound for the infant, from the breasts, and the purgations do then begin to diminish, and dry away, the alible juice being now translated from the uterus to the breasts.

And yet other animals do not require so great trouble in the business, for the foresaid parts in them are, in the compass of a day or two, quite restored, and perfectly consolidated. Nay, some of them (as the hare and the coney) in the space of an hour after they have kindled, do admit the buck, and are again fructified by Coition. As we have shewed that the hen, so soon as ever she hath layed, is compressed by the cock. But women alone, as they onely have termes, so do they abound with after-purgings, and do alone undergoe difficult and hazardous deliveries, because their uterus doth either unseasonably gather itself together, by reason of weakness, or else the after-purgings are depraved contrary to nature, or do

not come away kindly. For it often befalls women (especially the more tender sort) that the after-purgings being<sup>m</sup> corrupted, and grown noisome within, do call in feavers, and other grievous symptomes. For the womb being excoriated by the separation of the after-burden (especially if the separation were violent) like a large inward ulcer, is cleansed and mundified by the liberal emanations of the after-purgings. And hereupon we conclude of the welfare or danger of a woman in childbed, according to her excretions. If any part of the after-burden be left sticking to the uterus, the after-purgings will flow forth evil-sented, green, and as if they proceeded from a dead body; and sometimes, the courage and strength of the womb being quite vanquished, a suddaine gangrene doth induce a certain death.

In case any clotted blood, or any other præternatural matter, do remain in the cavity of the womb after the delivery; the womb will neither retire upwards, nor close its orifice, but its neck will continue soft and open, as I have had experience in a woman, which, lying very sick of a malignant feaver, and being very weak, did suffer an abortion, who, after the exclusion of the foetus, which was incorrupt and entire, yet lay exceeding weak, with a disorderly pulse, and in a cold sweat, as if she were a dying. I perceived the orifice of her womb was lax, soft, and very open, and her after-purgings were something noisome, whereupon I suspected that something did lurke in her womb which did putrefie, and putting in my hand, I extracted a false conception, as bigge as a goose-egge, which was made of a most thick, nervous, and almost gristly substance, having some perforations in it, whereout did issue a viscid and putrefied matter, and immediately upon this she was discharged of those greivous symptomes, and suddainly after did perfectly recover.

When the neck of the womb doth a litle contract it self, and thereupon the clotted blood doth get out, though not without pain and difficulty, causing those paines which our midwives call the after-throws: the danger is then supposed to be over, and indeed it is usually so, because it is a signe of the strength and firmness of the uterus, collecting it self easily together, whereby the after-purgings are more readily expelled, and the woman is the sooner well.

But I have known the orifice of the womb draw together so close in some immediately after the delivery, that the blood being detained in the womb, and thereupon suddenly putrefying and thick-



ening into clots, did induce most greivous symptomes ; and when no means would availle to unburden them, a present death ensued.

A very honourable lady in child-bed falling into a feaver, (by reason no after-purgings came from her) had her privities swoln, and scorching ; the orifice of her matrix being hard, and shut up, I did open it a litle way by force with an iron instrument, that so I might immit an injection by a litle syringe, whereupon black, clotted, and noisome blood did issue out, even to some certain pounds weight, whereby she received present ease.

The wife of a doctor of divinity, who was of a good habit of body enough, but being barren, did consult me, and being very desirous of children, she had tried many medicines and physitians, but all to no purpose ; she had her termes at the usual times, but sometimes (especially when she had rod on horseback) some corrupt and purulent substance did issue from her, which presently after would stop again. Some conceived it to be the whites ; others suspected it to be some deep ulcer, being perswaded thereunto, chiefly because her flux was not constant, and by litle and litle, but by certain intervals, and much at a time ; whereupon, by the help of a speculum matricis they did survey all the sheath of the uterus, and did apply several medicines, but all in vain. At last I, being called, did open the inward orifice of the womb, and presently there did issue forth to the quantity of two spoonfulls, of corrupt matter, sprinkled with bloody streaks. Which when I perceived, I told them that there lay an ulcer lurking in the cavity of her womb ; and by injecting proper medicaments, I restored her to her former health. But being intent upon the cure, and seeing the ordinary remedies did litle availle, I applied more forcible ones, because I suspected that the ulcer was inveterate, and perhaps with flesh growing upon it ; wherefore, to my former injections, I added a litle Roman vitriol, by whose acrimony the uterus being extimulated, did grow so hard, that it did seem as hard to the touch as a stone, and occasioned several hysterical symptomes withall, which physitians commonly conceive to proceed from the suffocation of the matrix, and foul vapours being thence sent upwards. This inconvenience continued a while, till the uterus being asswaged by milder applications, and such as abate pains, did relax its orifice againe, and did exclude the sharp liquour which I had injected, together with a putrid matter, whereby the patient was in a short time restored.

I conceived it convenient to transferre this history out of my medicinal observations to this place, that it may evidently appear, of

how sharp and quick a sense the uterus is, and how easily it doth close it self upon the presence of its adversary, especially in a greivous and difficult lying in. Now these casualties are most incident to women above all other creatures, and of them, to those that are tenderly brought up, and doe lead a sedentary and lazy life, as also to such as are of a sickly constitution, and do easily fall into distempers.

For country women, and such as take great paines, are not so dangerously ill, upon so smal grounds. Some of these will be with child again within a moneths time; when as the other are often out of order for two years after.

Hippocrates (l. de foetu) allotteth as many daies for the after-purgings, as for the formation of the foetus, and therefore more for a female then a male child. But that, witness Scaliger, is false: For none of our women are purged above a moneth after their delivery; many not beyond fifteen daies, and some but seven; nay, I have known a woman who was cleansed in three days, even after she had brought forth twins (Com. in hist. an. Arist. l. 7, c. 3). Galen hath many things concerning this subject, in his book *περὶ κοσμευσης*. The women (as the report goeth) in the New-found-land, keep close the day of their delivery, but the next day returne to their ordinary employments.

I will onely adde, for conclusion, a memorable relation, delivered to me from the noble lord George Carew, Baron of Tatnes, and for a long time President of Munster in Ireland, who also wrote the annals of those times. There was a woman bigge with child, which followed her husband, who was a souldier in the army; and the army being daily in motion, was it seemes forced to make a halt, by reason of a litle river that run cross the place whether they intended to march; whereupon the poor woman finding her labour come upon her, retired to the next thicket, and alone by her self, without any midwife, or other preparation, brought forth twins, which she presently carried to the river, and there washed both her self and them, which done, she wrapt her infants into a course cloth, and tied them to her back, and that very day, marched along with the army twelve mile together, bare-footed, and was never the worse for the matter.

The next day after, the deputy of Ireland, the Lord Mountiox, (who at that time was General of the army against the Spaniards, at the siege of Kingsale) and the President of Munster, being affected at the strangeness of the story, did both vouchsafe to be god-fathers to the infants.

### OF THE MEMBRANES AND HUMOURS OF THE UTERUS.

Hieronymus Fabricius (lib. de for. fœtus c. 1) recounteth four sorts of bodies which do consist without the fœtus, namely, the umbilical vessels, the membranes, humours, and fleshy substance. Concerning which, I shall briefly declare, wherein I differ in opinion from him, by the instigation of several observations; but first I shall succinctly lay down his opinion.

There are, saith he, three membranes, two whereof do encompass the infant throughout, but the third doth not. Of those which do encompass the fœtus, one is the interiour, called *αμνιον*, id est, amiculum, the litle covering. The other is placed next to the former, and called in Greek *Χαριον*, in Latine, Innominata, the coat without a name, but it is by interpreters falsly called Secundæ, or Secundina, the Secundine) and this also doth encompass the whole fœtus. The third is called *ἀλλαντουδης*, id est, intestinalis, the gut-like membane, because it is like a stuffed gut or pudding, which therefore doth not encompass the fœtus, but lieth over part of the breast and lower belly, and is extended to each horn of the uterus. He doth confess that this membrane is onely to be found in a lamb and a calfe, and saith that it is joined to the uterus, and doth by the urachus receive the urine of the fœtus from the bladder. And therefore, saith he, (cap. 7) in horned beasts, which have this coat called allantoides, the urachus is so large and strait that it resembleth a gut, growing by degrees lesser and lesser, even till it reach to the bottom of the bladder, which doth easily evince that its original is rather from the allantoides, than from the bladder. But in a man, and other animals which have teeth in both jawes, the fore-mentioned largeness of the urachus is so small that whereas it riseth single from the bottom of the bladder, it is presently after divided into most slender fibers, which passing along with the umbilical vessels, do transfund the urine into the coat Chorion, (in an almost invisible manner.) And upon this ground he doth challenge Arantius of a double errour, both in that he denyed any urachus to be found in a humane fœtus, and likewise for saying, that it doth discharge its urine through its privy member.

But for my part, I confess my self to be involved in the same errours with Arantius—if, at least, they be errours. For I am sure of this, that if you compress the bladder of a large-grown fœtus,

(be it the humane fœtus, or of any other animal) the urine will start out at the privities. But as for the urachus, I never yet saw any such thing, nor could ever observe that upon compression of the bladder, the urine would gush out into the secundines. I have indeed in sheep and deer, seen a certain process of the bladder, which doth contain urine in it, but never saw any such as the urachus by him described.

And yet I will not too stiffly deny that there is a coat called allantoïdes, for the interior membranes are so thin and transparent, such as we have signified to be found between the two whites of an egg, that they may easily impose upon the eye. Likewise in a hen-egg, between the colliquamentum and the white, that is, between the amnion and the chorion, there is to be seen some whitish excrements, nay, sometimes the very downright excrements of the guts, as we have formerly spoken, and Coiterus hath also observed. Moreover, the membrane of the colliquamentum itself, wherein the chicken doth swim, though it be pellucid, thin, and so subtle, that, (according to Fabricius his own confession), thinner cannot be imagined; yet, since according to him, all the membranes, though never so thin, are nevertheless double, nature may possibly sometimes, upon necessity, deposit the urine, or some other excrement, between the reduplications or folds thereof. And such a kinde of allantoïdes as this, I shall willingly indulge to Fabricius, but as for any other kinde of pudding carried on to both the hornes of the womb, I finde no such thing in the secundines of cloven-footed beasts, nor any thing else but the conception it self. I onely finde, as I have said before, a kinde of process of the bladder, which, being seated between the umbilical arteries, doth contain an excrementitious humour, and this process is in some longer, and in others shorter.

Wherefore, in my judgment, the coat which Fabricius calls allantoïdes, is the meer chorion; and yet the antients called it allantoïdes, from the figure of a double pudding, which it doth resemble. For the exterior membrane, which, like a wallet tyed in the middle, is extended to the extremities of each horn, and passing through the interposed part of the uterus, (or the connexion of both the horns), is fastened together, is the chorion, which, in sheep, goats, hinds, and does, and other cloven-footed beasts, if you take it in your hand in the middle of that passage, you may draw it away entire; and this we have called their egge, or conception.

For it containeth as an egge doth, a two-fold liquor, a fœtus,

and all things relating thereunto, and hath the same qualifications which Aristotle assigneth to an egge, namely, that out of part thereof an animal ought to be constituted, and that the remainder ought to become the support and sustenance of that animal, when it is now constituted.

And, therefore, that coat, which Fabricius calleth *allantoides*, I either conceive to be the chorion, or that something *præter-natural* had befallen some animal which he had seen. For certain it is, that it is onely to be found in some few animals, and not alwaies in them neither, for at the beginning it is not found, and afterwards, in some it is more, and in others less conspicuous, and in some nothing at all is discernable but meerly a process. And Fabricius himself conceiveth it not usefull to the encompassing of the infant, but only to the reception of the urine. And truly I believe that he maketh mention of it, rather in justification of the doctrine of the antients, then that himself found any such thing, or thought it usefull to any intent. But, both with the antients and the whole school of physitions, he doth confess that the chorion doth contain urine, where hee saith that two humours are about the foetus, the one being sweat, which is the amnion, the other urine, which is contained in the chorion.

By which it is manifest, that the antients understood one and the same membrane under a double compellation, namely, in cloven-footed beasts, in whom alone it is found, they called it *allantoides*, by reason of its figure; but in other animals they called it chorion, from its employment, because they conceived it was designed for the entertainment of the urine. And therefore they confess that this coat is neither found in a man nor any other animals. For what need of any other coat to entertain the urine, when that office, by their own confession, is already executed by the chorion? And, indeed, there can be no probable reason alledged why that coat should be found in sheep, goats, and other beasts which cleave the hoofs, and not also in dogs, cats, mice and others. For if it were instituted for the reception of the urine, it is necessary that the foetus of sheep and cowes should either abound with greater plenty of urine than other animals which have teeth in both jawes, or else that there are three diverse kindes of humours, or at least two receptacles of the urine. For this I am sure, that the chorion is from the first beginning full of water. But I do not here intend to dispute controversies; I shall rather rehearse what I have found by experience.

It is one thing to exhibit the fabrick of a conception or embryo that is now perfected, as Fabricius doth, but another thing to disclose the generation thereof, and first scheme and rudiments of all ; as it is a diverse business to describe apples, or the ripe seeds of plants, and their first production from the bud. We therefore will briefly relate how the conception is framed by little and little, even from the beginning to the end, that it may thence more likely appear what we are to conclude concerning the membranes and other appurtenances relating to the foetus.

All living things do derive their original, as we have said, from something which doth contain in it both the matter and efficient virtue and power, which, therefore, is that thing, both out of which, and by which, whatsoever is born doth deduce its beginning. And such an original or rudiment in animals (whether they proceed from other animals which do beget them, or else are spontaneous, and the issues of putrefaction), is a certain humour, which is concluded in some certain coat or shell, namely, a similar body having life actually in it, or in potentia ; and this, in case it be generated within an animal, and do there remain untill it have produced an Univocal animal, is commonly called a conception ; but if it be exposed without, by being born, or else assume its beginning elsewhere, it is called either an egg or a worm. But I conceive that both ought alike to be called primordium, the first rudiment from which an animal doth spring, as plants assume their nativity from the seed ; and all these primordia are of one kinde, namely, vital.

And this kinde of rudiment I finde in the uterus of all viviparous animals, before any part of the foetus appear, namely, there is a cleare, stiffe, white humour (like the white of an egge), which is included in a membrane, which I call their egge, and this doth fill up all the uterus and both the horns thereof in hindees, does, sheep, and other beasts which cleave the hoof.

In process of time, there is a most pure and clear watry part distinguished or severed from the rest of the rudiment or egge, which we call the colliquamentum, or dissolved part in a hen egge, and this doth in brightness or perspicuity farre exceed all the rest of the egge in which it is comprehended. The form thereof is round, and it is concluded in its own proper membrane, which is most thin and transparent, which they call amnion ; as for the rest of the humor, which is thicker and darker then this, an exterior coat, which is contiguous to the concave superficies of the uterus, and embraceth the whole egge, doth contain it, which obtaineth a



several figure, according to the diversity of the shape of the womb, for in some it is oval, in other oblong, but in beasts which cleave the hoof, it resembleth a wallet.

A little while after there doth appear in this crystal *colliquamentum*, *punctum rubrum saliens*, a red leaping point, from which most slender strings of little veines are disseminated like rayes or beames. Among the first concretment or substance of the body doth appear like a magnet, which is bent like a keel of a ship; and so the rest of the parts doe follow in their order, as hath been related in our history. For we have observed that the procreation of the foetus in viviparous animals is instituted in the same manner out of the egg or conception, as the chicken out of the henn egg.

But these viviparous conceptions do (as I have noted), differ in figure, number, and connexion to the uterus. For at the beginning, the conceptions (especially in those that cleave the hoof) doth not grow to the uterus, but being onely contiguous thereunto, doth fill up all its cavity and distend it, and may be easily drawn out whole.

In such creatures as cleave the hoof, (as I have noted), which do conceive in the uterus, and also in those that are whole-hoofed, there are many eggs found at a time, and that also extending to the horns, and though sometimes they do produce sometimes a double foetus, and thereupon have sometimes a double *colliquamentum*, and sometimes two, namely, one in the right, and another in the left horn, yet are they still concluded from a common egg or conception.

In other animals, so many foetus, so many several eggs are found apart, and as many *colliquamenta* in them, as it is in the dog, the cat, the mouse, and such like animals as have teeth in their jaws.

The figure of the conception in such as cleave the hoof is like a wallet, namely, such as Fabricius doth attribute to the *allantoides*. In a mare the internal shape of the womb resembleth a little oblong sack, but in a woman it is orbicular.

In those animals whose conception doth cleave to their womb, (which, truly, is not so in many, until the foetus be fully formed), it is distinguished by its diversity of connexion, for in some it doth stick onely in one place, by the mediation of a carnos substance which we call placenta, the uterine cake in women, because it resembleth the round figure of a cake, but in others it groweth to the uterus in several places, being fastened thereunto by divers

fleshy substances, or caruncles, namely, by five in hinds and does, by more in coves, but they are lesser also, but in the race of sheep, by very many, and those of different magnitude. In dogs and cats, these carnos bodies do (like a girdle) encompass every conception round. A like substance doth in hares and moles grow to the sides of their uterus, as also the uterine cake in a woman, which embraceth more than one half of the conception, as the cups do the acorns when they first spring, and therefore the gibbous part thereof doth stick fast to the womb, but the hollow part doth grow to the chorion.

These things being premised, we shall now disclose what our judgement is of these humours, membranes, and fleshy substances, and also of the distribution of the umbilical vessels which are spoken of by Fabricius.

Fabricius (cap. 5) doth rightly understand by the words *devrepa* and *voepa* the secundines, or after-burden, namely, not the membranes onely, but all that which doth come away last in delivery, or at lest, not long after it, and is constituted of humours, membranes and fleshy substances, as also of the umbilical vessels.

But as for what he relateth concerning the humours, which as he supposeth he doth receive from the ancients, as a thing most sure, and which standeth in no need of any proof, namely, that the water in the amnion, wherein the foetus swimmes, is its sweat, and that that outward water in the chorion is the urine, are both incongruous, and false assertions; for both those two humours do appear in the conception before any portion of the foetus it self be in being, and that which he calleth the urine is before that (which they conceive to be the sweat.) Nay, you may find these humours, especially the last, in some barren and unfruitful conceptions wherein there is no tract of a foetus at all.

Such conceptions as these, or subventaneous eggs, women do sometimes eject, and Aristotle saith, (de. gen. an. l. 3. c. 9. *Ibid.*) they are called fluxus, emanations, or fluxes, but we call them false conceptions and slips. Such an egge as these did Hippocrates shake from his aborting minstrel. For those creatures which do breed an animal within themselves have, in some sort after their first conception, something like an egge within them, for a humour is contained in a thin membrane, just as if you should pluck the shell off of the egge. But as for that humour contained in the chorion, which Fabricius and other physitians conceive to be the urine, Aristotle seemeth to apprehend it to be the liquor of the



sperme or geniture. For, he saith, (hist. an. l. 7. c. 7.) The seed being received by the uterus, having continued in it a while, is covered with a membrane. For if it chance to fall out before any dearticulation or delineation of the parts do appear, it looketh like an egge covered with a membrane, when the shell is pilled off. But that membrane is full of veins, namely the chorion, which hath assumed its *denomination a venterum choro, fœe copia*, from the conflux or multitude of veins.

I have often seen those kind of egges ejected in the second or third moneth: they are many times corrupt and rotten within, and do steale out insensibly, like the whites, and so delude those who have entertained hopes of a true conception.

Again, those forementioned humours cannot be conceived to be sweat or urine, because they abound in such plenty at the very beginning, that the embryo, swimming in the middest thereof, is thereby secured, whilst his mother runneth or danceth, or doth imply her body by any forcible agitation, from the collision of the circumjacent parts, as it were by a fortress.

Add to all this, that many animals never sweat at all, (when yet according to Aristotle, all water, land, and volatile animals, and / ~~shall put in~~ *creeping things*, and insects also, whether they be produced in the shape of an egge or an animal, or else be spontaneous productions, are all procreated after a like manner); all fowl, ~~creeping things~~, and fishes are conceived neither to sweat nor urine. The dog and cat do never sweat, nor any other animal while it doth emit abundance of urine. And certainly it is impossible that any animal should make water before the reines and bladder are made.

Besides, which is a more evincing argument than the rest, these humours cannot be excrementitious, because so many little filaments of veins are disseminated into them, which doe derive aliment from thence, as from a large stock, and afterwards conduct it unto the fœtus.

Again, if the humour contained in the chorion be the urine, what need is there of the allantoides? and if the humour contained in the amnion be the sweat, why did nature, who is so exact in all her contrivances, order the matter so ill as to condemn the fœtus to lye wallowing in its own excrement? and why doth the parent, presently after delivery, for that is usual with several creatures, devour that which is but the excrement of her fœtus, together with the membranes which contain it, with so much greediness and appetite? Some have observed that if the animal do not eat

up these membranes and humours it will not give down its milk freely.

If, notwithstanding all these arguments, some men will still maintain that these humours, which we dispose to the nutriment of the foetus, are excrementitious, and that upon this inducement, viz. because they also improve according to the growth of the foetus—and that in the birth of some animals, at which time the whole stock of aliment is in probability almost consumed, great store of these humours doth abound, and that therefore they must needs performe other offices then can well consist with the dignity of the nutriment. Yet for all this, I confidently pronounce that these humours are the aliment of the foetus from the beginning of all, (as the colliquamentum and the white do serve the chicken for the same purpose,) but in process of time, the thinner and purer parts being exhausted, the reliques do then put on the nature of an useful excrement, and are reserved in some animals that so they may secure the foetus and facilitate the delivery. For as wine, when the spirits are exhaled, turns into dead wine, and as several excrements do result from the reliques of the aliment, so in like manner when all that substance, which is commodious to the sustenance of the foetus, is derived out of the humour concluded in the chorion; the remainder doth turn into a kind of excrement, and is reserved for the uses aforesaid. But all that humour which was included in the amnion is commonly spent neer the approaching delivery, so that it is probable that the foetus desireth to get out by reason his provisions faile him.

Lastly, if at any time there be any other humour contained in the allantoides (as indeed there sometimes is) I esteem it to be a preternatural humour. For I have seen when women at their delivery have had a mighty flux of water, and sometimes a two-fold water, our midwives call them the by-waters. And therefore some women have a monstrous great belly, though they are brought to bed of a very little and lean childe; but such women do effund abundance of waters. Some are of opinion that the larger quantity of waters doth accompany weakly, and those female children, but the lesser, strong, and male children. I have often seen waters burst forth in the midst of the going with child, without abortion, the child remaining safe and strong even to the birth. As, therefore, there are naturally but two waters only, (whereof the one is contained in the chorion and the other in the amnion) so it may sometimes fall out, beside the ordinary course of nature, that seve-

ral waters may be accumulated in membranes proper to themselves, or else in the reduplications of the chorion.

*Of the membranes.*—As for the membranes or coats of the womb, since their proper use and office chiefly is to contain the waters, and those waters appear to be two only, it is most certain that the membranes themselves are not (necessary and usually) more than two.

But as for those who reckon three, I conceive they were deluded, because the ancients call the self-same membrane sometimes chorion, from the conflux of veines, and sometimes allantoides, from its figure.

Every conception is covered over with these two membranes, as also every braine hath a double meninx, every tree and shrub a two-fold bark, every seed and fruit a two-fold covering, whereof the exterior is the harder and tighter.

The more interior of the two forementioned membranes (containing the colliquamentum or purer humour) is the thinnest, and is called amnion, that is, amiculum, the little covering, because it covereth and involveth the fœtus. The exterior (which is by much the larger and stronger membrane) is called chorion, because (saith Fabricius) many veins and arteries are assembled in it, *æquam in choro*, as in a quire. And hence the coat of the eye, and likewise that contexture of veins and arteries which is found in the ventricles of the brain, are both called *χραιοειδής*, from the resemblance they have with these veines in the chorion.

This membrane chorion doth fill all the womb, containing a stiffe troubled humour, and to its exterior part the uterine cake or caruncles adhering, do fasten the conception to the womb.

The interior part of this membrane (in a woman) is almost conjoined to the amnion, nor is it easily separated from it. In those animals which cleave the hoof it is exceeding large, and containeth a hundred-fold more moisture in it than the amnion. For the amnion at the beginning is scarce so large as a nutmeg or fair bean, and is commonly found in one horn of the womb onely, namely in that where the fœtus inhabiteth.

The coat chorion is (chiefly in women) rough, and viscus within smooth and glibbe, and interwoven with abundance of veins. The upper part of it is (in women) thicker and softer, but the lower part thinner and more membranous.

In women the after-burden groweth to the upper part of this membrane. But in sheep several caruncles are fastened to several

parts of it. In hinds and does the conception doth cling to the uterus at five places onely, but in a mare it doth adhere to the uterus in an infinite company of places. And, therefore, Fabricius saith, (cap. 3.) that the after-birth is in almost all viviparous creatures a soft flesh, lax, porous, thick, and something black, growing about the terminations of the umbilical vessels, which he resembleth to a looser parenchyma or affusion of a liver or spleen, which is therefore by Galen called *caro adnosa* (5. apho. 45), a glandulous flesh, and we now commonly call it *hepar uterinum*, the uterine liver, into which the extremities of the umbilical vessels are disseminated, which do derive nutriment from the womb to the foetus.

But now this fleshy substance neither is in all animals, nor at all times in those in whom it is, but in those animals onely in whom the conception doth firmly cleave to the womb, and then onely when it is fastened to the womb to bring down sustenance to the foetus. For in the beginning the conception (like an egge seated in the womb) is contiguous to all the circumjacent parts of the uterus, but doth on no side grow thereunto, but doth produce its foetus (as it is in an egge which is sat upon by the henne) out of the humours contained in it; but that adhesion and cleaving to the womb is then first of all procured, and also this fleshy body is then first beginning to be generated (which fleshy substance is the tie of the conception to the womb) when the foetus is now perfectly formed and standing in need of other and more plentiful supply of aliment, doth dispatch the extremities of the umbilical vessels to the uterus as emissaries or agents, that may from thence (as the roots to plants) convey provisions. For in the beginning, (as we have shewed) when the punctum saliens and the blood doe onely appear, the propagations of the umbilical vessels are onely disseminated through the colliquamentum and the coat amnion. But when once the fabrick of the body is set up, those propagations do conduct themselves farther, and being grown more numerous, are divaricated in the chorion also, that so they may transport sustenance from thence to the foetus out of the whitish humour which resideth there.

By which it appeareth that the foetus of viviparous animals is at the beginning fed in the same manner as the chicken is sustained in the egge, and doth for that cause abide in the uterus, that at length (when it hath no longer a supply from its own stock) it may by the mediation of the earuncles grow to the uterus, and be more plentifully supported by the contribution of its parent.

Wherefore Fabricius did rightly observe that the conception was in some animals scarce fastened to the uterus at all. And therefore sows and mares have none of this carnous connexion, but their egge or conception, as it is first of all constituted out of the moisture or juices which do flow in the uterus, (as the egge in the hen is enlarged by the white, without any tye to the uterus) so doth it also receive augmentation, and the foetus also, having aliment administered to him from the conception, (wherein he is contained) is in the same manner supported as the egge out of the liquors. Whence a notable argument doth result, that the foetus of those animals is no more nourished by the mother's blood then the chicken in the egge, and that the humour comprehended in the chorion is neither urine nor any other excrement, but the aliment of the foetus. Although (as we have observed before) when the alible juice is exhausted, the remainder thereof doth degenerate into an excrement like to the urine. And this also is evident from that which we have formerly noted concerning the cotyledones, namely, that the fleshy substance is in those animals of a spongy substance, and doth (like a honeycomb) consist of innumerable acetabula, holes, or orifices, which are all of them full of a mucous white matter, (which Galen also records to be anciently observed) and that thence the extremities of the umbilical vessels do suck nutriment, which they transport to the foetus, as the small branches of the mesenterical veins do in those animals which are already born derive chyle out of the coats of the guts, through which they are diffused.

I therefore apprehend the imployment of the uterine cake and the caruncles to be such as is commonly imputed to the liver and the breasts. For the liver doth adde a preparation to the chyle which is attracted from the guts, fitting the same for the sustenance of the body, and likewise the uterine cake doth afresh concoct the alible nutriment which proceedeth from the parent to support the foetus. The breasts also (being composed of a glandulous substance) do strut with milk, and though they are parts which (in some animals) do not appear at all, yet at the time of pregnation they are seen to be full and tumorous; so the uterine cake, being a laxe, or flaggy and fungous substance, doth flow with a whitish sap, and is never found but at the time of ingravitation. The liver, I say, is the nutritive instrument of the body wherein it is, the breasts of the infant, and the placenta of the embryo. And as the mother doth by her own food acquire more milke then she hath

use to sustain her flesh and blood, which milk is reconcocted in her breasts and treasured up ; so also such females as are great with young (in whose womb this placenta is) do prepare and suppeditate to their foetus an aliment which is defecated by those caruncles : by which it cometh to pass, that an impure or laudable diet is administered to the embryo's, according as the parent's diet itself is either wholesome or impure, and according to the sufficient or imperfect concoction which they afford it in those organs of the uterus. For some embryo's have a more perfect organ provided for them, such as is that carnos substance of the uterus, which is wanting in some. In some likewise this uterine cake is thicker, larger, and fuller of blood ; but in others it is more spongy and paler : like those two sweetbreads or glandulous bodies called Thymus and Pancreas. For you shall finde as much difference of these in animals, as of the breasts or of the bowels : for to instance onely in livers, they are in some ruddy and sanguine ; in others, (as in the greatest part of fishes, and likewise cachectical persons) pale. Mares do feed upon the crude grass, and do not chew the cud ; sowes swill themselves with any filth, and both these want a uterine cake, which is the organ of compleating the aliment.

And therefore true is that of Fabricius (cap. 3.) saying, this fleshy substance is, in several kinds of animals, different in magnitude, figure, scite, and number. Women have one onely ; as mice, conies, ginny-pigs, bitches, cats, and several animals, whose feet are distinguished into toes, and have teeth in both jaws : but all animals which cleave the hoof, and have teeth in one jaw onely, whether they be domesticks, as the sheep, the cow, and the goat ; or wilde, as the hinde, the doe, the roe, and the like, have diverse. Again, those animals which have but one, in them it either resembleth a cake (and thence cometh its denomination) as in women, conies, the hare, and the mole, mice, and ginney-pigs : or else it resembleth a zone or girdle, or swath ingirting the trunck of the body, as in bitches, cats, ferrets, and the like. In some it is like a chalice or acorn cup, comprehending the greater part of the foetus (as in the hare and the cony), where the convexe part groweth to the uterus, and the concavus respects the foetus. Likewise in those females which have but one, and that resembling a cake, though the figure be alike in them all, yet the scituation is unlike. For in a woman it groweth to the bottom of the womb, and is distant a great way, that is by the length of long vessels from the foetus : but in mice, ginny-pigs, and conies, it is annexed partly to the regions of

the loynes, partly to the sides of the breast. But those animals which have more of these carnous substances than one, they are all of them furnished with teeth in one jaw onely, as sheep, coves, hinds, roe-deer, and the like, and yet in these also there is a diversity. For ewes have more caruncles, and those of different magnitude; the biggest whereof are as large as a nutmeg, the least as a chick-pease or vetch: which are also of a round figure and ruddy complexion, and their convex parts do respect the uterus, appearing like soft warts or nipples. But coves have greater, flatter, and paler, which are of a spongy consistence, like mushrooms, and these seem to take their original from the chorion. Hinds and does have five onely; and those bred out of the womb do protuberate towards the conception, and there exhibit their cavities. But being firmly fastened to the uterus, are not easily separated from it, except it be when the birth is drawing nigh; at which time (like ripe fruits,) they do very easily forego their former connexion. And being torn off from the womb, I have observed the greater part of the blood which flows afterward, to issue not from the conception, but from the uterus itself.

Fabricius, treating of the union of this carnous substance with the uterus, doth labour by many (but weak) arguments to prove, that the umbilical vessels do join to the extremities of the vessels of the womb by several insertions; and this he doth undertake, chiefly to countenance the old opinion received almost by all; for he confesseth that he can deliver nothing certaine touching this matter, because the carnous substance hinders a man from discovering the truth thereof. But yet neither sense nor reason do evince that there are any more anastomoses in the uterus, then in the liver, between the branches of the gate and hollow-vein; or in the breasts, between the veins which convey blood, and those that waft the milk. There is indeed, in some places, a kind of contiguity or juxtaposition of those vessels, and sometimes an insertion of the one into the coat of the other; but no where any such coalition or union, as Fabricius conceiteth. For were it so, the veines ought to be inserted into the arteries; for the vessels, which do convey blood into the uterus and caruncles are arteries: but they which transport it from the uterus to the fœtus are veins, as is apparent to all men; because they waft the blood from the after-birth into the hollow-vein.

Wherefore the opinion of Arantius seems to me to be more true; namely, that the orifices of the umbilical vessels are not united to the orifices of the vessels of the womb. For there are fewer vessels

conducting blood to the womb then veins returning it to the fœtus ; and the greatest part of the propagations of these are terminated in the chorion. And yet Fabricius, either overswayed by his respects to antiquity, or his envy to Arantius, doth stubbornly persist in the patronage of the old opinion.

As concerning the cotyledones or acetabula, Fabricius, (cap. 4. de Acetabulis), concludeth nothing certain ; but only compileth the several opinions of antiquity. But we have before, in the history of hinds and does, shewed in what animals these acetabula are ; where we have withal signified that they are certain little cells of small capacity, dispersed through the caruncles or fleshy substance, and fraught with a white or gellyish substance ; as the honey-comb is full of honey.

In hinds they do fitly resemble the shape of that cavity in the haunch-bone which receiveth the bone of the thigh ; and therefore they are by the Greeks called Cotyledones, and in Latin Acetabula ; because they resemble those little vessels or sawsers which were anciently brought to the table with vinegar for sawse. These cavities do not exceed in magnitude the perforations of a large sponge, and into each of them, so many slender sprigs of the umbilical vessels do deeply insinuate themselves ; because in them is laid up the sustenance of the fœtus, and not blood (as Fabricius conceived) but a gelly resembling the thicker white of an egge. Whereby it appears (as we have formerly declared) that the fœtus of such as cleave the hoof (as likewise all other) are not sustained by the mother's blood.

That which Aristotle (Hist. an. l. 7. c. 8.) delivereth concerning the acetabula, that they are diminished as the fœtus doth improve, is contrary to experience ; for the larger the fœtus, the larger the caruncles also, and their acetabula, or cavities, are more capacious, and more numerous, and more full of albugineous juice.

If you compress these caruncles, no blood at all doth issue out ; but as water or honey doth distill out of a squeezed sponge, or honey-comb. So in like manner if you press the acetabula, an albugenious liquor doth drop out ; and when that liquor is pressed out, the acetabula are more contract, pale, and flaggy, and at last do resemble the nipples of the breast, or large falling warts.

Aristotle, indeed, doth truly affirm that these acetabula are not in all animals ; for they are not in women, nor in any else (as far as I know) who have onely one carnous substance in their uterus. But as for their office and use, I conceive that all the caruncles (like breasts) do not contain blood, but digest a sap, like to the white of an egge, which they do administer to nourish the fœtus.



*Of the Navel.*—The description of the umbilical vessels is elegantly delivered by Fabricius, cap. 2, as his tables or pictures of them are very artificial.

The veins, saith he, passing from the uterus towards the foetus, are ever united, and improved: nor doth their conjunction give over, until two large trunks do result out of them all, which, penetrating the navel of the infant, they do constitute one onely large trunk, which is inserted into the liver of the infant, and perforated into the hollow and gate vein. In like manner, the arteries adjoined to these veins, which are very numerous and small, passing on from the womb to the foetus, and at last uniting their forces together, and so enlarging, do conspire into two large trunks, also; which after they have passed the navel do separate themselves and break company from the veins, and sticking to the sides of the bladder of urine, by the help of an intervening membrane, they do here and there disperse themselves into the branches of the great artery descending into the thighs. But we must take notice that this description given by Fabricius, doth agree only to the navel of an infant, and is not common to the foetus of every animal at large; nor yet to an infant neither, but after it is fully formed; for the arteries (at the beginning,) are inconspicuous, as being so slender, that we have need of the quick sight of a Lynceus to discern them: nor do they indeed reveal themselves afterwards, but only by their pulsation: for in other things they are no way distinguishable from veins. Because therefore, (as I have shewed elsewhere) the slender branches or filaments of the arteries have no pulsation, (at lest so far as we can discover) they cannot be known from veins: for they are at that time so thin and subtle, that they are woven to the coats of the veins like the finest threads; or rather do obscurely insinuate themselves into the tunicles of the veins, whereby they are utterly indiscernable. But all the veins (by a retrograde production) uniting their sprigs at last, do all conspire into one trunk, (as all the branches into one stock) as also the meseraick veins are all concluded in the vena porte.

Neer the embryo, they are divided into two trunks, but when once they enter into him, they do constitute one onely navel, which doth terminate in the hollow-vein, neer the right deaf-ear of the heart; and passing through the liver, is inserted into the gate-vein, and doth scatter no more propagations, untill by a very large orifice it displayeth it self out of the gibbous part of the liver. So that if you open the trunk of the hollow-vein from the deaf-ear of the

heart, downwards, and so exhaust it of all its blood, you may perceive three orifices as conjoined together; one whereof is the entrance into the descending trunk of the hollow vein, the other is the going out of the branch of the liver disseminated through all its gibbous part; but the third is the original of this umbilical vein. Whereby it clearly appeareth that the original of the veins is not to be sought for in the liver, because the orifice of the descending trunk of the hollow-vein is much larger then the liver-branch; for the umbilical branch is as large as that. But the branches are never said to be the original of their trunk, but rather where the trunk is largest, there are we to repute the original of the branches to reside; now that happeneth at the entrance of the right ventricle of the heart, and therefore that ventricle is to be accounted the original, and promptuary of all the veins.

I return now to the umbilical vessels, which are not divided after the same manner in all animals; for there are found in some 2 or more little branches in the body of the foetus, whereof some pass into the liver, others into the vena porte, or mesernical veins. But in a human foetus, the trunks of the veins and arteries being involved together, are complicated, some 3 or 4 fingers' breadth from the navel (as if one should twist so many wax candles together like a cord) being skinned over, and conglutinated by the help of a thick and gellyish membrane. This little cord passing on to the chorion is in the flat part of the after-birth, and interior superficies of the chorion, distributed into several propagations, and thence is ramified into many other almost infinite little branches, by which the aliment attracted as it were by so many roots, is derived to the foetus. The veines relating to this little cord, are distinguished in sundry places by little knobbs, or warts, as it were by little bladders full of blood, that so the blood might not rush in too forcibly upon the foetus. By the number of these protuberations, the superstitious midwives do spend their divination concerning the number of children yet to come; and in case they finde none of these knobs, they pronounce the woman barren for the future; and likewise by the distance betweene these protuberations, they fondly prophesie of the space between childe and childe; and also of the discrimination of the sex, from the variety of their complexion.

Also the constitution of the umbilical vessels is like to this in almost all other foetuses which have but one onely uterine cake: namely, in bitches, mice, and others; but the little cord is in them shorter, and less complicated. But in cows, ewes, hindes, does, sowes, and other animals, whose foetus is not sustained by aliment derived

from one carnous substance or cake, but from diverse, the distribution of the umbilical vessels is also diverse. For the litle branches or terminations of the vessels are not disseminated through the cake onely, but also, (and that chiefly too) without it, through the coat called chorion, dispatching their most slender fibres, thither likewise; just as the distribution of the umbilical vessels (namely without the litle cord) appeareth in a human foetus, before the conception is fastened to the uterus. Whereby it appeareth, that the embryo doth not derive all his aliment from the cake, but part thereof, and that chiefest, from the humour contained in the chorion.

As touching the uses of the umbilical vessels, I do not consent with Fabricius; for he is of opinion that all the blood is derived to the foetus from the uterus by the veines, and the vital spirits from the mother by the arteries. He also denyeth, that any part of the foetus in the womb doth execute any publick function, but affirmeth that each particular part taketh care onely for it selfe, how it may be nourished, augmented, and preserved. And also, because he findeth no nerve amongst the umbilical vessels, he concludeth the foetus to be void of all sense and motion; implying that the mother's womb, or the uterine cake, is as it were the heart, and original from whence all things spring to the foetus, and from whence the influent heat is divided amongst all the parts. All which are manifest mistakes. For the humane embryo, when he is not yet four moneths standing in the womb, (and some sooner) exerciseth an apparent motion, volutation, and calcitration; especially if he be prejudiced by extremity of cold or heat, or any other outward inconvenience. Likewise the punctum saliens it self, (before the heart is erected) doth stirre by an apparent pulsation, and also distribute blood, and spirits; and being (as we have observed) reduced to a dying and languishing condition by cold, is by the fresh accession of heat, kindled anew, and revived. And also in the Cæsarian birth, it is very evident that the embryo's life doth not immediately proceed from the parent, nor the spirits result from her; for we have often seen infants which have been cut out of their mother's womb, survive their parent for several hours; and have also known a cony and a hare which did live, though they were born by incision made upon the uterus of their parents. Moreover, it is a sure way to know whether the infant that sticketh in the birth be alive or not, by the pulsation of the umbilical arteries. But most certain it is that those arteries are not moved by the virtue or operation of the mothers, but of his own proper heart; For they keep a distinct

time and pawze, from the mother's pulse, which is easily experimented, if you lay one hand upon the mother's wrist and the other on the infant's navel-string. Nay in a Cæsarean section, when the embryos have been yet involved in the membrane called chorion, I have oftentimes found (even when the mother was extinct, and stiff almost with cold) the umbilical arteries beating, and the foetus himself lusty. Wherefore it is not true, that the spirits do proceed to the foetus from the mother's arteries; nor is that more true, namely, that the umbilical vessels of the foetus are conjoined by anastomosis, to the vessels of the uterus. For the foetus enjoyeth his own proper life, and is furnished with beating arteries, which are full of blood and spirits long before the conception (in which he is formed and walloweth) doth cleave to the uterus, just as it is with chicken in the egge.

As for the use of the arteries in the foetus (as also in grown bodies) we have in our treatise of the circulation of the blood, demonstrated it to be much different from what hath been formerly received; all which is also confirmed from hence.

The Secundines; they also are an undeniable part of the conception, and do depend upon the foetus, assuming life and their vegetal faculty from him. For as in the mesentery, the blood is derived to the guts by the branches of the coeliacal and mesenterical arteries; and that very blood being circulated by the veines, doth convey the chyle together with it unto the liver, and the heart; so in like manner, the umbilical arteries do derive blood to the secundines, which blood the veins do reduce to the foetus, together with alible juice. and therefore those arteries do not immediately proceed from the heart as principal vessels; but (as instruments of inferiour rank and quality) do arise out of the crural branches.

There came forth a book of late, wrote by Adrianus Spigelius, entituled "*De formato Fœtu*," of the formed foetus: wherein he treateth concerning the use of the umbilical arteries, and doth demonstrate by powerful arguments, that the foetus doth not receive its vital spirits by the arteries from the mother; and hath fully answered those arguments which are alledged to the contrary. But he might also as well have proved by the same arguments, that the blood neither is transported into the foetus from the mother's veines by the propagations of the umbilical veins; which is chiefly made manifest by the examples drawn from the hen-egge, and the Cæsarian birth.

For did the heat and life flow to the blood from the mother, she being extinct, the infant would instantly dye also; (for he must

needs be a thing concluded in the same fatality) nay before her ; for when death approacheth, the subordinate parts doe first languish, and grow cold before the principal, and hereupon the heart declines the last of all. The blood I say of the foetus himselfe, should grow chill first, and disproportionate to its office, as being derived from the uterus ; seeing that the uterus it selfe is deprived and destitute of all vital heat before the heart.

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### OF THE CONCEPTION.

Fabricius hath indeed recounted many miraculous things, concerning the birth, but wee meet with more things worthy our wonder concerning the conception. It is indeed a dark, obscure business ; however, we shall venture to propose something in a problematical way, in such sort that it shall appeare wee doe not onely goe about to subvert other men's opinions, but also to disclose our owne. And yet whatsoever falleth from me concerning this subject, I desire may not be so taken as if I conceived them pronounced by an oracle ; but that liberty which I freely allow all other men, I doe of right challenge to myself ; that so I may offer those things as true, which seem probable in such dark matters, until such time as they can be convinced of falsity or errour.

This imployment doth chiefly relate to the uterus, without whose preparations and functions you may in vaine expect a conception, and because it is certaine that the geniture of the male doth not so much as reach to the cavity of the uterus, much less abide there for any time ; that geniture doth derive fecundity to the uterus only by a kinde of contagion, (not as if it were now tangent and operating, but because it hath formerly touched). The woman or female doth seem after the spermatical contact (in coition) to be affected in the same manner, and to be rendered prolificall by no sensible corporeal agent, as the iron touched by the loadstone is presently indowed with the virtue of the loadstone, and doth draw other iron bodies unto it. Namely having once received that virtue, which we have spoken of, it doth exercise the plastick generative power, and procreateth its own like, no otherwise then plants doe, which we see are impowered with the force of both sexes.

But I cannot but wonder where that faculty (when the act of coition is finished, before the production of the egge or conception

doth reside? and to what that active vertue of the male is imparted? namely, whether to the uterus alone or to the whole female? or rather, primarily to the uterus, but secondarily to the female? or lastly, whether, as we see with our eyes, and think with our braines, so a female doth conceive with her uterus?

For though the female sometimes (conceiving after coition) doth not produce a fœtus; yet we know that those symptomes did ensue, which gave a cleare testimony of a conception set on foot, (though it came to nothing.) Your litle bitches which are kept too plentifully, and thereupon admit coition (without success) are notwithstanding observed to be sluggish about the just time whereat they ought to puppy, and bark as if they were in distress, and likewise filch away the young whelps from another bitch, and lick them over and cherish them (as tenderly as if they were their own natural productions) and fight eagerly to keep them from the true parent. Nay some of them have milk, or beestings (as they call it) in their teats; and are obnoxious to the distempers incident to those that have really puppied, just as hennes will cluck in their season, though they have no eggs at all to sit upon. Some kinde of birds (as namely pigeons) if they admit coition at the wonted time, though they lay no eggs at all, or subventaneous ones onely, yet are possessed with their usual sedulity and providence of building nests.

For the vertue proceeding from the male doth so largely fructifie the whole female, that it produceth a thorough change and alteration, as well in the frame of their minds, as in the constitution of their bodies. And though this doe principally happen to the uterus fitted for the impression; and from thence the power and efficacy thereof be derived to the whole body; (as from the turgent testicles of the male there is an accession of strength superadded to the whole body) yet the same scruple remaines, namely, how this power communicated to the uterus it selfe, doth inhere in it? as whether in the whole uterus, or in one part of it onely? For there is nothing to be found abiding therein after coition; for the geniture of the male doth either suddenly fall out again, or vanish away, and the blood doth circulate againe from the uterus, by the vessels.

Besides, what preparation or maturity of the uterus is it, that doth require the genitall seed, or from whence doth it proceed? for unless the uterus be prepared for coition, all other attempts are frustrate; nay, several animals do not admit coition it selfe, without they be thus prepared. That maturity, I confess, doth sooner befall them, by reason of their converse with the male, and the incitements

which he useth to provoke them ; yet it is procured (as that ripeness of fruits in plants) by nature's own inclination and tendency. But what this alteration is, I shall now deliver, according as I have found it by experience.

First of all the uterus appears thicker and more fleshy : and afterwards (forasmuch as concerneth the interior superficies, which is the place where the future conception is to be received) it groweth more tender, answering in lubricity and softness to the internal ventricles of the braine, as we have even now affirmed concerning hindes, and other creatures which cleave the hoofs. But in bitches, cats, and other multiparous animals whose feet are distinguished into toes, the horns of the wombe doe exactly resemble the little smooth trumpets of a woman's womb, or the appendixes of the guts of birds, or the ureters in men, and in some places have little knobs which doe swell inward, and become exceeding soft, through which, after coition (as we have observed in hinds and does) as if they did open themselves, the first albugineous humours doe transpire into the capacity of the uterus, out of which humours the conception or egge is formed. And this is the manner how the uterus is by the coition of the male (like fruit by the summer heat) impregnated, and heightened into the highest pitch of maturity.

But because there are no manifest signs of conception visible, before the uterus doth begin to open, and the albugineous liquor or slender threads, (like the spider's web) and the first rudiments of the future egge or conception appear ; and seeing the substance of the uterus, now ready for conception, doth so neerly resemble the constitution of the braine ; why may we not imagine that both their functions are also alike ; and that something like, if not the selfe same thing that the phantasme, or appetite is to the brain, is excited in the uterus, from which the generation or procreation of the egge doth succeed ? for both their functions are equally called conceptions, and both are immaterial ; though they be the principles of all the actions of the body ; namely, this of the natural, that of the animal actions ; this is the first cause and principle of all actions relating to the generation of animals, and that of all actions tending to their preservation. And as appetite doth spring from the conception of the braine, and that conception from the outward appetible or desirable objects. So also from the male (as being the more perfect animal) as from the most natural appetible object, the natural conception doth arise in the uterus, as the animal conception in the brain.

And from this appetite or conception it cometh to pass, that the female doth produce an offspring like the male genitor. For as we from the conception of the form, or idea in the braine, do fashion a form like to it in our works, so doth the idea or species of the genitor residing in the uterus, by the help of the formative facultie, beget a fœtus like the genitor himself, namely by implanting that immaterial species which it hath, upon its workmanship. In like manner, as art which is the *εἶδος*, or species of the future work doth produce a like in its operation, and generate it in the matter. As the builder erects a house according to his pre-received conception. And the same thing happeneth in other productions and artificial generations. So that what discipline doth effect in the braine, namely art; that in the proportion doth the coition of the male effect in the uterus, namely the plastical art; whereby several fœtuses are procreated either like or unlike, by the same coition. For if the generations, and first artificial conceptions (which are onely imitations of the natural) are thus produced by the braine; how much more probable is it, that the exemplars of animal generation and conception, are in like manner produced by the uterus.

And because nature (all whose works are admirable and divine) doth institute such an organ (namely the braine) by whose sensitive faculty and virtue, the conceptions of the rational soule doe exist; namely desires and arts, and the principles and causes of so many several productions, whereof man (by the motive faculty of the braine) is the author by imitation; why shall we not think, that the same nature, which hath contrived the womb, which is a no less admirable organ than the braine, and hath framed it of a like constitution to execute the office of conception, hath designed it also to a like function, or at least to one which beareth an analogy with it; and that nature did intend an organ which is every way like the braine, to an employment like to that to which the braine is assigned? For since a skilful artificer doth accomplish his workmanship, by his ingenious proportioning one instrument to one thing and the same to the same, and the like to the like. So that by the materials and shape of his instruments, a man may easily judge of their use and actions; no less than Aristotle hath instructed us to know the nature of natural bodies by their conformation and the fabrick of their parts; and the art of physiognomy, doth by lineaments and parts of the face (as the eye, nose, forehead, &c.) give judgment of the manners and dispositions of men. What shall hinder us, out of the same fabrick of parts, to pass our conjecture that their office is also the same?



But such is the preposterous success of things, that when we come to debate customary and familiar things, their frequency doth diminish their greatness and admiration which is due unto them ; but when matters of less consequence (but such as are more unusual) do present themselves, wee instantly magnifie them because of their novelty and rarity. Whosoever shall weigh with himself how the brain of the artist, or the artist himself by virtue of his brain, doth form things which are not present with him, but such as he only hath formerly seen, so much to the life ; and how litle birds which immove themselves all winter long, do exactly chant and recall to to minde those ditties the next spring which they had learned the summer before, though they did never practise them all the while ; and which is yet more strange, how a litle bird will most artificially contrive a nest (whereof shee never saw any platform before) and that not from her memory, or any habit implanted in her, but onely by meere phansie ; and how a young spider, without any pattern, or brain, by the help of phansie onely, doth dispose her web ; whosoever, I say, doth diligently ponder these things, will, I conceive, not think it an absurd or monstrous matter, for a woman to become the efficient cause of generation, being impregnated by the conception of a generall, immateriall idea.

I know full well, that some scoffing persons will laugh at these conjectures, approving nothing but their own private inventions. Yet this is the wont of philosophers, when they cannot clearly discover how things themselves are brought about, to conceive some way consonant to the course of nature, and the next borderer upon truth her selfe, how such matters may be achieved. And indeed all all those opinions (which we now cry up) were at first meere figments and imaginations untill they wrought a solid credit in us by sensible experiment, and were ratified by their necessary knowne causes. Aristotle saith (*Metaph. l. i. c. 2.*) that philosophers are in some sort lovers of fables, because a fable doth consist of strange things. And, indeed, those who were first possessed with the admiration of things, did advance philosophy. And for my own particular, since I plainly see that nothing at all doth remaine in the uterus after coition, whereunto I might ascribe the principle of generation, no more then remaines in the braine after sensation and experience, whereunto the principle of art may be reduced ; but finding the constitution to be alike in both, I have invented this fable. Let the learned and ingenious stock of men consider of it ; let the supercilious reject it ; and for the scoffing ticklish generation, let them laugh their swinge.

Because, I say, there is no sensible thing to be found in the uterus after coition ; and yet there is a necessity, that something should be there, which may render the female fruitful ; and that (in probability) can be no corporeal essence ; we have no refuge left us but to fly to meere conception, and reception of species without any matter ; namely to apprehend that the same thing is effected in the womb as in the braine ; unless some cunning philosopher, whom the gods have better provided for, can finde out some efficient cause which is not concluded in our recapitulation.

Some philosophers, even of our owne time, have furbushed over the old opinion concerning the atomes ; and doe therefore conceive that this contagion (as also all other) doth proceed from the most subtle effluviūms, or emanations of the masculine seed, which do easily transpire after the manner of odours, and so are shot into the uterus at the time of coition. Some again raise up certaine incorporeal spirits, like so many agents, angels, or dæmons. Others understand a contagion, like to a kinde of ferment, or sower leavening. Others phansie and imagine otherwise. Allow, therefore, amongst others, some place for this conjecture of mine, untill there be some certainty established in the business.

I have observed many things, which will easily extirpate the recited opinions of other men ; (so that now it is much more obvious to say what it is not, then what it is) but those observations relate not to this place, but must be proposed elsewhere. At the present I shall say this onely : If that which we commonly call contagion, as being derived from the spermatical contact in coition, and remaining behinde in the female, (when the geniture it selfe is not then in presence) is the efficient and operatour of the future procreation ; if, I say, this contagion (whether it be atomes, or odour, or ferment, or whatsoever else) be free from the nature of a body, it must of necessity be an incorporeal thing. And if, moreover, upon enquiry it do appear to be neither a spirit, nor a dæmon, nor a soul, nor any part of a soul, nor yet something which hath a soul, (as I conceive I can demonstrate by several arguments and experiments.) What remains, since I can imagine nothing else, nor no man hath hitherto dreamed of any other thing, but freely to profess myself to be at a stand ? But he that doubts and admires, saith Aristotle, doth confess he doth not know. Wherefore, if to avoid the stain of ignorance, ingenuous men turn philosophers, it is cleare that they pursue knowledge for knowledge sake, and not for any other use.

Wee ought not therefore to be condemned, if being desirous of knowing things, and upon that account walking in untrodden paths, wee set before you something, which at first blush may seem fabulous and fictitious. For as all things are not to be swallowed with too much credulity; so those things which have been exactly and long considered, are not utterly to be despised, though they doe not appeare so rare to sharp-witted men.

Aristotle himselfe, (Metaph. l. 2. c. i.) wrote a book de Mirabilibus Auditis, of heare-say wonders. And in another place hee saith, That wee must not onely pay thanks to them to whose opinions a man may safely subscribe; but to those also who have spoken but superficially to the purpose. For even they also are of some use, for they exercise our habits. For had not Timotheus been, wee had lost a great deal of musicke. And yet if Phrynis had not been, Timotheus had not been existent neither. In like manner they who have delivered any kinde of truth; for wee have received some opinions from some philosophers, and yet some others were the occasion of these philosophers.

And therefore being moved by the example and authority of so gallant a person as Aristotle, least I might seem made up of nothing but the subversion of other men's doctrines, I have chosen rather to propose a feigned opinion, than none at all; and have contented myself in this place to play the Phrynis to Timotheus; viz., to shake off the sloth and drowsiness of the age we live in, and to awaken the wits of industrious heads, permitting rather that abler men should sport themselves with my proposals, than that any carefull enquirer into the nature of things should accuse mee of sluggishness.

Truth is a man cannot search after a more august theorem, nor learn any thing of more use then this, namely, How all things are produced by an univocal agent? or after what manner the same thing doth still generate the same? and that not onely in the productions of art, (for so a house erects a house, one face limnes another, and one image formeth another image) but in those also which relate to the minde, as a minde begets a minde, and one opinion another opinion. Democritus his atomes, and Eudoxus his chiefest good placed in pleasure, did impregnate Epicurus; Empedocles his four elements, Aristotle; the doctrine of antient Thebes Pythagoras and Plato; and geometrie, Euclid. Just in this manner is the son borne like the father; and the virtues which do innoble a family, and the hereditary vices also, are sometimes after many generations transported to posterity; some diseases also produce their like in other subjects; as lepro-

sie, the gout, syphilis, or French-pox, and so forth. — (Arist. an. l. 7. c. 6., and de gen. an. l. i. c. 17. l. 7. c. ii.) But what talke I of diseases, since succession hath at a remove vast, repeated the very moles, warts, and scarres, which the great-grandsires formerly wore? The marke of the familie (saith Plinie) is repeated in the armes of the Daci, every fourth birth. That minde, opinion, and those very manners, which are now out of use, may many yeares hence (when all those are decayed, which are now received) return againe. For the eternall minde of the Divine Creator, which is imprinted in things, doth create the image of it selfe in humane conceptions.

Having therefore overcome some difficulties which relate to this subject, I have a strong desire to discourse the matter more closely; that what I have hitherto delivered cursorily, may seeme to carry a fairer probability at least with it, and also to excite the wits of studious men, to make a deeper search into the businesse.

Therefore (that we may illustrate the thing the better) let A stand for the fruitfull egge (namely the matter of the fruitfull chicken) which is alterable and convertible into a chicken, or is a chicken in posse; and let B stand for that which fructifieth the egge, distinguishing it from a subventaneous egge, namely the efficient cause of the chicken, or that which doth alter the egge, and convert or terminate it into a chicken. And C for the chicken it selfe, or final cause, for whose sake both the egge and that which fructifieth the egge doe exist; namely, the act or reason of the chicken.

Now we take it for granted (which Aristotle doth demonstrate) that every first mover or alterer is together with that thing which is moved or altered by it. Now those things are most properly said to be simul, together, which are generated at the same time; so that movens and mobile the thing altering, and the thing altered are actually together, and in case one of them be, the other must needs bee also; for of necessity if the effect be in being, the cause thereof must also be.

Whensoever, therefore, A (namely the fruitful egge is actually in being; B likewise (namely the internal mover, and efficient, or fructifier) is actually in being also. But whensoever B is actually existent, C also, (at least in some sort) namely the species of the chicken, or the form without matter is existent. For B is the internal efficient of the chicken; that is to say, that thing which doth move or alter A, (namely the egge) into C, namely the reason of the chicken. That therefore every moving thing may be together with the thing that is moved; and every cause with the thing caused,

it is necessary that C should exist together with B, because the final cause, as well in nature as art, is the first of all the causes, for it moveth and is it selfe not moved; but the efficient moveth, because it is incited by the finall cause. For there is in every efficient, in some sort, *ratio finis*, the reason of the end, or finall cause; by which final cause, the efficient, operating with providence, is moved.

Aristotle's authority, (de part. an. l. 1, c. i.) is clearly on our side. That seemeth, saith he, to be the chiefest amongst natural causes, which we signifie under this notion, *cujus gratia*, for whose sake. For that is the reason. But the reason is the first cause, as well in natural as artificial effects. For when the physitian doth define health, and the mason a house, by either the intellect or by sense, he useth to render the reasons and causes of the thing which he doth effect, and also subjoineth the reason why hee maketh it so; though that cause which is the cause for whose sake, which is the cause and reason of the good and faire, is rather conjoined to the works of nature then of art.

But the end, saith he, (Phys. l. 2. tract. 3.) is the thing for whose sake, as the thing for whose sake we walk is health. For if you aske, why a man doth walk, we reply, to continue his health; and having made that answer, we conceive we have rendered the cause thereof. And therefore whatsoever is interposed, some other thing moving thereunto, is done for the end's sake; as extenuation is procured for health sake, or purgation, or physick, or any other instruments, for all those are for the end's sake. And a while after. But wee ought alwayes to seek out the first cause of every thing, as in other matters. As a man buildeth because he is a builder; but he is a builder by reason of his art of building; this therefore is the first cause, and so it is in all things whatsoever. And hereupon he affirmeth, (de gen. an. l. 2. c. i.) that, that cause which doth first move, and in which the reason and form doth lye, is a worthier and a more divine cause, then the material.

In every natural generation of animals therefore, both the matter out of which, and the efficient by which, (namely A, the thing moved, and B, the thing moving) are both for the sake of the animal already begotten, or which is to be begotten; because that which moveth, and is not moved it selfe, namely C, is alike in them both. For both they (namely A and B) are both moveable, and moved, namely the thing fructifying, which is B, (which doth both move and is moved,) and that thing which is fructified, which is A, namely the matter or egge, which is onely moved or altered. Wherefore if

no moveable thing be actually moved, unless the thing moving be together present with it. Certainly, neither shall the matter be moved, nor the efficient move or effect any thing, unless the first mover bee in some sort present too: viz. the form, or species, which is without matter, and is the principal cause. For the efficient and generant (according to Aristotle) (de gen. an. l. 2. c. 4.) as they are such, do belong to that which is effected, and generated. And therefore it is a syllogisme framed out of the first and necessary causes: namely,

*Whensoever B is actually existent, C also is actually existent: (namely moving in some sort).*

*Whensoever A is actually existent, B is also actually existent.*

*Therefore, whensoever A is actually existent, C also is actually existent.*

Indeed, natural and artificial generation are after one and the same manner. For both are instituted for the sake of something, and doe alike out of a kinde of providence direct themselves to a proposed end; for both are first moved by some conceived form, which is immaterial, and is produced by conception. — (Arist. de part. an. l. 1. c. 6.) For the braine is the organ of the conception of the one, (for art is the reason of the worke,) (devoyd of all matter, in the soule, whose organ the braine is,) but the uterus, or egge of the other.

The conception, therefore, of the egge, or uterus, is (in some sort) like the conception of the braine it selfe, and both of them doe alike partake of the end. For the species or forme of the chicken is in the uterus or egge, without any matter at all: as the reason of the work is in the artificer, and the reason of the house in the brain of the builder.

But because, *eo inesse*, this word, to bee in, is perhaps an equivocal word, and things may bee said to bee *simul*, together, severall wayes; therefore we say, and affirme, that the species and immateriall forme of the future chicken is *aliquo modo*, in some sort, the cause of the pregnation and fecundity of the uterus; because, after coition, there is no corporeal thing found therein.

But how this immateriall cause, as the principle, can be alike in the braine, and in the uterus, and how they agree among themselves, or doe differ, namely, the conceptions of the braine, and of the uterus or art, and nature; and in what manner, that which fructifieth (namely the internal efficient cause of the procreation of an animall) is in the male, and its geniture; in the female and her wombe; in

the egge also, or mixt workmanship of both ; and what the difference betweene them is ; hereafter, when wee shall treat universally of the generation of all animals (even of those also, which are generated by metamorphosis ; namely, of insects and spontaneous productions, in whose egges, or first rudiments, there is a plaine species or immateriall forme, as being the moving principle in regard of those things which are to be produced, as also in all other seed whatsoever) and also when we shall discourse of the soule and its affections ; and also how arts, memory, and experience, are onely the conceptions of the brain, wee shall endeavour both largely and perspicuously to explaine.

FINIS.

OF THE

NATURAL PROGRESS OF LABOUR.

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**SECTION 1.**—*Of the different positions of the Fœtus in Natural Labour.*—Natural Labour comprehends two series of events or phenomena, which in the function of parturition are quite confounded with one another, but which may, in thought, be separated, and whose separation is even useful, if the study of the phenomena of natural labour is made the object.

The one series of these phenomena arises from the activity of the parturient process, which again depends on the active manner in which the organ concerned in it exerts itself, and the result of this activity is the expulsion of the fœtus from the uterus. The other result of these phenomena is exhibited in the passive, but regular motions, which the fœtus is observed to make in its passage through the pelvis. The latter phenomenon is that which is commonly called the **MECHANISM OF LABOUR**, the description of which forms the subject of the first part of this work.

Besides the influence which the strength and nature of the expelling powers, the form and state of the genital passages, the size, form, and peculiar physical condition of the child exert on the progress of labour, the mechanism also differs further and particularly, as well according to the part of the child's body found in the commencement of labour at or engaged in the inlet of the pelvis, and which in the further progress of the process continues to present, as according to the size of these parts in relation to the extent of the pelvic canal. It also differs according to the situation of the fœtus in labour, and the position of the presenting part.

In order that labour should proceed naturally, that is, by means of the powers of nature designed for that purpose alone, and with-



out harm and danger to the mother and child ensuing, (besides the regular state of other circumstances, and the definite and appointed term of labour) one of the principal conditions necessary is, that the foetus shall have such a position in the uterus that its long axis shall correspond with that of this organ.

This position can manifestly be only *two-fold*, because at the time when labour commences, either the upper or cranial extremity of the foetus, or its lower or pelvic extremity, is found in the neighbourhood of the inlet of the pelvis: we therefore describe as the cardinal positions of the foetus in natural labour,

1. *Cranial Presentations, and*

2. *Breech Presentations.*

We divide the former, according as the cranium or the face presents, into *cranial* and *facial* presentations.

In labours where the pelvic extremity of the foetus is the presenting part, it may happen, that both the feet, or only one foot, and in very rare instances, even the knees, slip down before the breech. But this circumstance, apart from the very great infrequency of the last case, is of little consequence, and the division of presentations of the pelvic extremity into breech, foot, and knee presentations, is at least, superfluous, as much so indeed, as the designations "double labours, perfect and imperfect, entire and half footling labours," &c. is improper.

Besides the variations in the mechanism of labour depend on the different positions of the foetus, and, also, on the relative position of the presenting part to the various imaginable points of the brim of the pelvis, according to which we arrange the different positions of the presenting part or species of presentation.

SECTION 2.—*On the Mechanism of Labour in Presentation of the Cranium.*—That the foetus has a *longitudinal* position in the uterus, the following signs permit us to conclude towards the end of pregnancy or in the beginning of labour:

1. In the external examination by means of the hand, the expansion of the abdomen is observed to be equable. It is pointed forwards, and on neither side is there any unusual breadth, nor is there found on it any remarkable inequalities, elevations, or depressions.

2. The examination of the abdomen by means of the naked ear or the stethoscope, may be useful. We are warranted to conclude that the foetus has a longitudinal position when we find the double beat of the foetal heart limited to one of the lateral halves of the uterus,

whilst in faulty positions of the foetus, it may, for the most part, be perceived on one side of the abdomen, extending from below upwards in an oblique direction over to the opposite side.

3. When in the vaginal examination a large, round, globular body is felt presenting.

4. When the woman states that she only perceives the motions of the foetus on one or the other side of the abdomen.\*

That the part of the foetus which presents is indeed the *cranium*, is inferred from the regularly arched form and hardness of the globular body recognized by the examining finger, and from the presence of the sutures and fontanelles.

The *species of the cranial position* we however infer from the direction of the sutures and the situation of the fontanelles.

**SECTION 3.—Of the Difficulties encountered in Diagnosing the positions of the Cranium.**—Many circumstances may render the diagnosis of the presentations of the cranium and its peculiar position difficult. The most important will be briefly pointed out, to which class the following are considered to belong. The principal of these is the high situation of the head, which often makes the diagnosis difficult, and sometimes even impossible, especially when the liquor amnii is undischarged, and in those cases where one would not usually rupture the membranes, the finger, introduced between the os uteri and the presenting part, can only circumscribe the periphery of the head. A more complete examination of the position is purchased only too easily by the premature escape of the liquor amnii. Further, the mobility of the head, when situated higher, often renders the diagnosis exceedingly difficult, even when the liquor amnii has already escaped. It is often imagined in those cases that precisely such a place of the head is reached, as will give the desired information, and then on the instant the head retires upwards, and thus frustrates other attempts to discover its position. This high situation of the head is for the most part (apart from pelvic contraction) owing to the smallness of the foetus, the existence of too great a quantity of liquor amnii, pendulous abdomen, &c., and it is therefore most commonly observed at the commencement of labour. Yet it is not, especially for the less expert, so easy to determine whether the head is high or not, and the inexperienced are very much inclined to assume that it is situated high when this is not the case, and

\* Paragraph 4 is quoted from the author's *Lehrbuch der Geburtshilfe*. Mayence, 1847, § 262.—Tr.

they also reverse it where there is a large cranial swelling by often falling into the contrary error. Some practice in examining, however, easily enables one to avoid these errors. If there be too much liquor amnii between the head and the membranes, and the latter remain tense in the intervals of the pains, the diagnosis of the position of the head will be difficult; but when the bag of waters, already deep in the pelvis, resists the further progress of the head, the membranes are generally tougher than usual, and the experienced finger may frequently detect the position of the head by reaching it in the absence of pain, while the waters are spread as it were backwards or to the side. The swelling of the cranial integuments, of which more particular mention will be made in the sequel, and also the softness of the bones, belong to the same category. Not unfrequently the cranial bones are unusually soft; and if the point of the finger be pressed against them a corresponding depression is formed, which, however, again immediately disappears on the removal of the pressure; in short they resemble in this, very completely, tinsel, or plates of tin beaten very thin.\* The bones still retain this softness and elasticity some time after birth, but they disappear from about the third to the sixth day; and the skeleton of the head of the child, on which they were observed during labour, exhibits, here and there, an extremely tender, porous, structure. The following states are further difficulties in the way of diagnosis: imperfect development, and original malformation of the skull, hydrocephalus, an acephalous fœtus, hydrancephalocoele, hernia of the brain, &c. If the fœtus has been for a long time dead in the uterus, and decomposition has already begun, a sero-

\* In a case, which lately occurred to the translator, the position of the head was for a moment rendered doubtful, by this soft and elastic state of the cranial bones. On tracing what was thought to be the sagittal suture, forwards, to the left obturator foramen, there were found, on coming to what was assumed to be the posterior superior angle of the right parietal bone, four sutures. Tracing the sagittal suture backwards to the right sacro-iliac symphysis the anterior fontanelle was with some difficulty reached, but its marks were so characteristic that it was at once recognised, and the head therefore held to be in the first cranial position of the author. The cause of the momentary doubt as to the position of the head immediately became apparent; for on following out the more anterior of the supposed sutures, it gradually became more indistinct, until it was finally lost on the protuberance of the right parietal bone. After delivery the child's head was examined, and on pressing, even gently, on the angle of the parietal bone already pointed out, the bone itself bent inwards, in the form of a channel or groove, which gradually became shallower until it was altogether lost on the parietal protuberance.

sanguineous fluid pervades the cellular tissue below the cranial integuments, and the soft parts, distended by it, separate from the cranium, the connexion of the bones of which even become loose. Such a head, whilst being forced through the pelvis, resembles an elongated sac, and mistakes frequently occur; for example, taking it for the buttocks, or even the bag of membranes, when it is not known that the liquor amnii has already escaped. This head has also been frequently regarded as hydrocephalic, whilst its change of form was merely the result of commencing decomposition.

Finally, false sutures are by far the most frequent causes of difficulty, and they puzzle the most practised finger in determining the position of the head, and give rise to numerous errors. They are observed not merely in the hydrocephalic head, where the sutures and fontanelles are usually very broad, the bones generally very slightly developed, often consisting of only a single ossified point, and where also Wormian bones exist in the sutures and fontanelles, but also in the otherwise perfectly healthy cranium. The occipital bone is frequently divided by a suture, corresponding in direction to that of the sagittal, into two halves, so that the posterior fontanelle may then be mistaken for the anterior, &c. In every pathologico-anatomical collection there are preparations which shew this and other deviations in the development of the cranium caused by false sutures; and also of the much rarer ossification of one or more of the sutures, as well as of examples of the solid crania of strong, well developed children, where instead of the sutures there is often only slightly developed folds of the cranial integuments, corresponding to the direction, but which themselves cannot be felt, all of which may solve the difficulty to us; but such cases, as we have said, are rare.

SECTION 4.—*Species of the Cranial Positions.*—The foetus usually presents itself in labour with the cranium at the inlet of the pelvis in only two ways, viz.:

1. *With the right parietal bone presenting and standing lowest in the pelvis, and the posterior fontanelle directed to the left, and more or less forwards,*—the first cranial position.

2. *With the left parietal bone presenting, and the posterior fontanelle directed to the right and more or less backwards,*—the second cranial position.

SECTION 5.—*Frequency of the Two Usual Cranial Positions.*—With reference to the frequency of the occurrence of the two usual

kinds of cranial positions, the first is the most frequent. Among 4042 children born between 1819 and 1837, in the Heidelberg Lying-in Institution, 3834 presented with the head, viz., 3795 with the cranium, and 39 with the face. After abstracting 94 cases, where the original direction of the head could not, on account of various circumstances, be definitely ascertained, for example, because of too precipitate labour, its being too far advanced, &c., there was met with, in 3701 carefully observed cases of cranial presentation, 2457 instances of the first position, and 1244 of the second. It is from this circumstance, therefore, the first mentioned position is termed the *first*, and the second, the *second* cranial position.

**SECTION 6. *Progress of Labour in the First Cranial Position.***—If an examination is made at the commencement of the second stage of labour, as soon as the os uteri, in a primipara, is sufficiently open to admit the finger, its point comes in contact with a suture, which is directed backwards, and, for the most part, somewhat to the left. It crosses the os uteri nearly obliquely, and therefore generally divides it into two unequal halves, because it passes much nearer the sacrum than the ossa pubis. This is the sagittal suture, and the place with which the finger comes in contact is very nearly in its middle.

If the finger is allowed to glide along this suture to the left, it reaches a point, where it is divided into two limbs, or meets with two other sutures. These are the two limbs of the lambdoidal suture, and the place where they meet with the sagittal suture the posterior fontanelle. If the finger is moved from the place of the sagittal suture which it first touched along it towards the right, it arrives at a spot of the cranium free from bones, where four sutures meet at the anterior fontanelle. If, on the contrary, the finger is removed from the point of the sagittal suture just mentioned; that is to say, if the os uteri is sufficiently open and dilatable to admit of it, directly forwards, so that the direction of the finger shall correspond to that of the central line of the pelvis, it comes in contact with a conical projection, which is the right parietal protuberance. And even if the anterior lip of the os uteri does not permit, as, for example, in primipara, the finger to be carried so far forwards, the sufficiently expanded and thin lower segment of the uterus nevertheless allows the presenting part to be easily felt through it. In first pregnancies, indeed, the sagittal suture, and even sometimes the posterior fontanelle may be clearly recognised

through the lower segment of the uterus, near the termination of pregnancy.

The situation of the head in the first cranial position is, therefore, at the commencement of labour, as follows. The vertex is turned towards the sacrum, that is, the middle region of the sagittal suture towards the first or second piece of the sacrum, according as the head is higher or lower in the pelvis; the posterior fontanelle is directed towards the left and somewhat forwards, corresponding to the left acetabulum, and the posterior to the right and somewhat backwards; the right parietal bone is the part of the cranium which stands deepest in the pelvis, and its protuberance is almost in its centre. Both fontanelles are either on the same level, or sometimes the anterior is the lowest, less seldom is the posterior somewhat lower than the former. The head therefore presents, in labour, at the inlet of the pelvis in an oblique direction, both with respect to its transverse and its long diameters. The higher the head is, the nearer does its long diameter approach the transverse diameter of the pelvis, and so much more oblique is its position; wherefore the right ear can also be generally felt behind the pubes without difficulty.

Nothing of all this would of consequence be felt, if the head had a direct position, or even if in labour it presented with the occiput foremost, as is still supposed by many, although the unprejudiced, but somewhat experienced observer, may, on every opportunity, convince himself of the fact.

Whilst now the head in the course of labour engages itself deeper in the inlet of the pelvis, and gradually descends into its cavity, the two fontanelles often remain on the same level, but for the most part the posterior fontanelle rises in a somewhat greater degree upwards than the anterior. Sometimes the reverse of this occurs, without otherwise in the least thereby rendering the progress of labour more difficult, or retarding it. This turning of the head on its transverse diameter, is remarked, especially when in advancing it meets with rather more than the usual degree of resistance from the soft or hard passages.

When the head has passed through the inlet of the pelvis with the greatest circumference which it presents to it, and approaches the floor of its cavity, both fontanelles are then usually found equally deep, and the long diameter of the head corresponds with the right oblique diameter of the cavity of the pelvis. But on account of its oblique position, the head therefore never coincides

with its greatest bi-parietal breadth (from one parietal protuberance to the other), nor with that of its base, to the transverse diameter of the inlet, nor of the cavity, in its passage through them.

That the head in sinking down into the cavity of the pelvis assumes such a position in it, that the posterior fontanelle is turned towards the pubic arch, or immediately behind the symphysis pubis, as stated almost universally in systems and manuals of midwifery, is incorrect, seeing that this process must "*follow the general laws of the mechanism of labour, which are wholly based on the structure of the pelvis.*" When the head has completely entered the cavity of the pelvis, and is very near its outlet, the posterior fontanelle is still commonly found turned towards the left obturator foramen. The point of the finger introduced at this time nearly in the centre of the arch of the pubes, in the direction of the imaginary middle line of the pelvic cavity continued outwards, touches very nearly on the middle of the posterior superior angle of the right parietal bone, and sometimes almost on the middle of its posterior half.

About the end of the third stage of labour the head is now, by the continued pressure of the uterine contractions, forced towards the perineum and vulva, and beginning to distend them, presses the former downwards, so that when the head begins to become visible between the labia, the posterior fontanelle at last gradually moves, by degrees repeated at equal intervals, from the left to the right (often also somewhat more or less from above downwards), and the occipital bone passes from the side of the pelvis under the arch of the pubes. But it is not the occipital protuberance which first advances under the arch of the pubes; it is the posterior superior angle of the right parietal bone, which is turned towards the os externum, and with which the head engages in the inlet of the pelvis, consequently, the right limb of the lambdoidal suture is to be felt running parallel with the descending ramus of the left os pubis. If the point of the finger is carried along the sagittal suture when the head is engaged in the outlet, it takes a direction from the descending ramus of the left os pubis to the ascending ramus of the right ischium. The posterior superior quarter of the right parietal bone, is therefore the region of the cranium, with which the head engages in the outlet, in the first cranial position. But even in the farther engagement of the head, that is to say, in its farther pressure outwards between the labia majora, and even when it has nearly cleared the os externum, the posterior fontanelle is in general found to be still directed a little towards the left. If an exact examination is made at this period, the right limb of the

lambdoidal suture is found to be higher, or nearer the summit of the arch of the pubes than the left. The head therefore does not complete a revolution on its perpendicular axis from left to right, or a transition from the oblique to the straight position; not even in passing through the os externum with the greatest circumference which it presents to it. This circumference is not taken in relation to the transverse diameter of the head, from one parietal protuberance to the other, but is a circle which intersects the small and great diameters of the head at an acute angle. If in a labour which proceeds sufficiently slow, that is, in all points regular—in short, a model labour, whether in a primipara or one that has borne a number of children, the finger be allowed to remain in contact with the posterior fontanelle, whilst the head is engaged in the inlet, and until it becomes so in the outlet of the pelvis, we find, by carefully observing, that it usually remains directed towards the left until the head is completely forced through the os externum. We may also be further convinced of this in another way, viz., if, when the head is near its expulsion, during the absence of a pain, the point of the finger is carried along the sagittal suture from its posterior extremity forwards, this suture is not found following the direction of the central line of the sacrum, but running obliquely from the left to the right. What has been said is shewn in the clearest manner in those cases (especially in primiparæ, but also in those who have borne a number of children, and in whom the perineum has remained uninjured in previous labours) where the head continues stationary for some time in the outlet, during one or two of the intervals between the pains, and surrounded in the greatest circumference which it presents to it by the os externum. In this case the sagittal suture is not directed towards the posterior commissure of the labia, but from left to right, crossing the right labium obliquely at some distance from its lower or posterior extremity, and the right parietal protuberance is distinctly observed to precede the appearance of the left.

All this may be best observed with the woman lying on the left side, and this position seems to favour very much the progress of the head through the outlet of the pelvis, as just described; but I have just as frequently had an opportunity of seeing labour pursue the same course whilst the patient lay on her back.

When the head is forced through the os externum with the greatest circumference which it presents to it, the greatly distended perineum retires pretty quickly backwards over the face, and the head



passes upwards and forwards, turning at the same time on its transverse axis. As soon as the head disengages itself from the resistance offered to it at the os externum by the soft parts, it again takes an oblique position, even if it has not retained it at the moment of delivery, that is to say, the face turns towards the internal and under side of the right thigh of the mother.

When the head comes to be engaged in the outlet of the pelvis, the shoulders enter the inlet in the direction of its left oblique diameter, and in the further engagement and delivery of the head, they also sink downwards in an oblique direction into the cavity of the pelvis until they reach the outlet. As little do the shoulders, as does the head in general, turn, in entering into the cavity of the pelvis, into the straight diameter, as is almost universally taught. The position of the shoulder at the outlet is thus: The right shoulder is behind the right branch of the pubic arch, and the left turned towards the left sacro-sciatic ligament; and in this oblique position the shoulders come, during the next or one of the following pains, to engage in and pass through the outlet of the pelvis, in such a way that the anterior—the shoulder directed towards the right, and not as is usually taught the posterior one—is first delivered, which then is more or less quickly followed by the other shoulder and the rest of the child's body, the hips being also born in the same oblique direction.

SECTION 7.—*Swelling of the Cranial Integuments during Labour.*—The observation of the *swellings* which form during labour on the cranial integuments, is of the greatest importance in relation to the representation of the manner in which the head moves with the cranium foremost through the cavity of the pelvis.

Frequently, yet only under certain circumstances, a swelling of the cranial integuments forms soon after the opening of the os uteri, which, in the farther progress of the labour, gradually disappears again, when the os uteri changes its state, its direction, &c., or, on the other hand, the head its position against it; nevertheless, it occasionally also still remains for some time perceptible during the advancing dilatation of the os uteri, although then becoming softer. This swelling is found on the part of the cranium turned towards the os uteri, and in the *first* cranial position on the *right* parietal bone, close to its upper edge, and nearly equally distant from both fontanelles. Sometimes a small part of it extends over the sagittal suture to the other parietal bone, and sometimes it is situated exactly over the middle of the sagittal suture; its

circumference is regulated by the extent of the dilatation of the os uteri. The sagittal suture then may not, in consequence of this swelling, be felt through it, but it becomes again perceptible on both its sides, and it may be traced with the point of the finger to the one or the other, or to both fontanelles.

This kind of swelling, which sometimes forms on the cranial integuments at the commencement of labour, may, of all the varieties of cranial tumefactions, be called the *primary*; and it is principally observed in primiparæ, but not exclusively, for it also takes place under similar circumstances where a number of children have been born. It occurs when the liquor amnii drains away prematurely, when the os uteri is only slightly dilated, or in cases where there is only a small quantity of it between the head and the membranes, and therefore generally when the head rests firmly on the lower segment of the uterus, or where it is closely embraced by the latter; further, in a certain unyieldingness and tension of the os uteri which continues during the absence of the pains, and which depends on the irregular action of the uterus, the swelling becomes, in consequence, higher, firmer, and more elastic. If the os uteri continue unusually long dilated to the extent of half an inch, an inch, or a little more, inflexible as it were, and if, in this state (as is not unfrequently observed in primiparæ, where it remains unchanged in spite of apparently powerful pains, for six, eight, or more hours), the other stages of labour follow each other very quickly, especially if the engagement of the head in the outlet and its delivery proceed unusually quick and easily, the head brings this swelling with it into the world, all other parts of it being free of any tumefaction, or the secondary cranial swelling, of which we shall immediately speak, is only very slightly developed.

If a swelling of the cranial integuments has not already formed in the further advance of the head into the cavity of the pelvis by the close contraction of the lower segment of the uterus on the head, on the spot crossed by the wrinkles which form on cranial integuments, and if the head is retarded for a considerable time in the position in which it is found towards the end of the third, and at the commencement of the fourth stage of labour, as is particularly the case in primiparæ, or especially if the labour occupies the proper time, a swelling of the cranial integuments arises on the posterior superior part of the right parietal bone, the place of the cranium opposed to the arch of the pubes; and this swelling of the

scalp is the secondary swelling, or *caput succedaneum*, which the child brings with it into the world. This swelling, the base of which is circular, is always limited to the place just mentioned.

If an examination is made after the subsidence of a pain, and therefore of the tension of uterus, the right limb of the lambdoidal suture, the posterior part of the sagittal, and to the left and upwards, together with the swelling, and at a short distance from it, the posterior fontanelle may be distinctly felt, since the swelling does not extend over these parts. And if the head remains for a long time pressed against the distended os externum, without actually advancing under the arch of the pubes, and the further engagement and passage of the head ensue more rapidly than usual, whilst, as is sometimes the case, the pains suddenly increase in intensity, the swelling is invariably limited to the posterior superior quarter of the right parietal bone. But if the further advance and delivery of the head occur in the usual way, that is to say, with sufficient slowness, its circumference and base include a somewhat larger part of the right parietal bone, and also in general, but only to a small extent, it spreads over the sagittal, the right limb of the lambdoidal suture, and the posterior fontanelle, of which, however, it commonly only covers the edge.

The situation of the swelling of the scalp, as just described, proves, to every impartial person at least, incontestibly, that the head retains its previous oblique position, when it reaches the cavity of the pelvis, and during its passage through its outlet,\* and if the description still requires confirmation, the unprejudiced may daily convince themselves of its correctness by the observation in all its relations of a natural case of labour.

*Section 8.—Of some further means of Diagnosis of the Cranial Presentations.*—A few words relative to the *Diagnosis* of the first cranial position may still find a place here.

\* The correctness of the description has of late, (and how could it be otherwise, since truth always in the end prevails) been recognized on many hands; and it is so much the more to be regretted when, in other respects, highly deserving obstetricians, whilst they cannot refuse their consent to the truth, and thus have no occasion to surrender themselves to errors in theory, merely for the sake of opposition. In proof I have only to cite the representation of the progress of labour in the manual of the esteemed Carus, and to ask, how he is to reconcile the first position (II. Part, § 823, 2nd ed. 1828) with the situation of the cranial swelling as stated there, and with what he previously says a little before of the situation of the head in the cavity of the pelvis and at the outlet.

The pregnant female in general feels the motions of the foetus strongest, or even exclusively, on one or other of the side of the abdomen. The majority say, when questioned on the subject, that they feel the motion liveliest on the right side. Very frequently the sense of motion remains on the same side from the period of pregnancy at which the woman was wont chiefly to first feel it, until delivery. But it many times changes; for example, the woman who felt it exclusively to the right, three or four weeks, some days, or only a short time before, or even at the commencement of labour, now feels it entirely to the left, and *vice versa*.

The sense of the child's motions arise, without doubt, from the varying pressure on the inner surface of the uterus, occasioned by the motions of the extremities of the foetus,—the hands, knees, and feet,—and naturally it can therefore only be perceived in the region of the uterus to which the anterior surface of the child is turned.

If the motion be continually felt, or first even only shortly before or in the beginning of labour on the right side, it may be assumed with tolerable certainty, that the cranium, (if one is certain it presents) is placed in the *first* position. Observation teaches further, that if the motion has been chiefly felt during pregnancy on the left side, that the cranium is in the *second* position. Cases also have occurred in this position of the head, where the motion has, for the most part, been throughout perceived on the right side, and where with the beginning of the first perceptible contractions of the uterus the sensation of motion has changed to the left side, and the parturient woman has declared that she felt the foetus had assumed another position in the uterus.

But in questioning and explaining the answers obtained, one must be very careful, especially because with uneducated persons mistakes easily originate; for example, many women imagine one should precisely know where they feel the pressure of the child the strongest and most constant, and yet indicate the side opposite to that in which they themselves observe the motions of the child.

It is evident how this sensation of the motions of the foetus may become a useful diagnostic sign, where we are assured of the presentation being a cranial one, but yet do not know its position. Precisely the same object may be served by the use of the *Stethoscope*, and with some practice, it will seldom lead to error in the determination of the position of the head. The limits of this work do not permit me to communicate the results of my stethoscopic observations in detail, (but a fitting opportunity will soon enable

me to do so), yet I may be allowed to point out briefly what relates to this subject.

Numerous examinations, instituted with care on those pregnant and in child-bed, have convinced me that very frequently the stroke of the foetal heart is limited to one side, from the period of the pregnancy at which it first becomes perceptible to the ear, till the commencement of labour, and that in this case, the foetus has a corresponding position. If, therefore, the double beat is always heard on the *left* side of the uterus, I confidently conclude that the head is in the *first* position, and if on the right, that it is in the *second*. Sometimes the pulsations change sides, and the mother perceptibly feels the corresponding motions of the foetus as it sometimes passes suddenly over from one side to the other. If, however, the foetal pulse is limited towards the end of pregnancy, and at the commencement of labour to the left lower region of the abdomen, and is most distinctly perceived to extend from this place somewhat forwards and upwards, in the direction of the corresponding superior abdominal region, but manifestly diminishing in intensity; it is therefore to be concluded, if we are convinced the presentation is a cranial one, that the cranium is in the *first* position. According to my experience I cannot agree with Dubois\* when he argues against Auscultation, as a means of diagnosing the position of the foetus, that the pulsation of the heart is often discovered in places widely apart from one another. I have also, of course, often found the stroke of the heart perceptible to a tolerably wide extent, but nevertheless I was in these cases, almost without exception, able to determine with certainty the point from which it proceeded. If the pulsation be perceived in the right inferior region of the abdomen, and extends from thence upwards and forwards, we are warranted in concluding that the cranium is in the *second* position, in which, it appears to us, that the pulsation often extends somewhat further towards the middle of the abdomen than in the first position.

I attribute far less importance to the diagnosis of the position of the foetus, and of the various situations of the placenta, by the naked ear; and for as much as I prize Hohl's excellent treatise, I cannot but confess that I have far more frequently perceived the placenta and the back of the child on one and the

\* De l'Application de l'Auscultation à la Pratique des Accouchemens; Rapport fait à l'Académie de Médecine par M. PAUL DUBOIS, Professeur, etc.—(Extrait des Archives Gén. de Méd.) p. 17.

same side, than this experienced auscultator is inclined to admit. But in another place I shall speak further on this subject. It is enough that the place in which the stroke of the heart is perceived gives, in most instances, certain information as to the position of the foetus.

Nevertheless, I expressly guard myself in this short exposition, against the belief that auscultation can supply the place of the examining finger; and no one can be more thoroughly convinced of the contrary than I am; yet the examination by means of the sense of hearing is undoubtedly a valuable addition to the modes of exploration hitherto in use.

**SECTION 9.—*Progress of Labour in the Second Cranial Position.***

—The head is originally placed in this case also, as well obliquely in respect to its transverse and perpendicular diameters, as in the first cranial positions, but with the difference that the direction of the fontanelles is reversed. At the beginning of labour, and in those who have borne a number of children even earlier, the anterior fontanelle is felt turned towards the left acetabulum, and the posterior towards the right sacro-iliac symphysis; they are nearly on the same level, and sometimes the one, and sometimes the other, is the more easily reached. And as in the first cranial position, the right parietal bone is the part which stands deepest in the pelvis, so, in this case, it is the *left*. The point of the finger introduced in the direction of the central line of the pelvis touches the protuberance of this parietal bone.

In the progress of labour, while the head presses through the inlet, and gradually descends into the cavity of the pelvis (during which the left parietal bone constantly stands lowest), both fontanelles remain either at an equal height, or sometimes the anterior sinks most downwards, but sometimes, however, the posterior in a somewhat greater degree than the other. For the most part the posterior fontanelle is more easily reached at this time than the anterior, but the reverse is frequently the case without the progress of labour being rendered in the least more difficult. The anterior fontanelle remains during the whole process constantly directed towards the left obturator foramen, as the posterior does in the first cranial position; and when the head has sunk into the cavity of the pelvis, both the fontanelles can usually be felt at an equal height.

When the head arrives in the cavity of the pelvis, and begins to

experience the resistance which its floor, or the oblique plane formed by the inferior half of the sacrum, by the coccyx, and by the sacro-sciatic ligaments, &c., opposes to it, there now in general ensues, sometimes even a little earlier, the following *change in its position*: the straight diameter of the head turns gradually out of the right oblique diameter into the transverse diameter of the cavity of the pelvis, and from this into its left oblique diameter, *i. e.*, the posterior fontanelle is turned from behind and to the right, forwards and to the right, in the direction of the right obturator foramen.

This rotation of the head, during which it describes the fourth part of a circle, takes place, as just remarked, for the most part, gradually, with a screw-like motion, forwards and backwards. In order to gain a clear idea of it, examination must be made at various times, in the absence and during the presence of the pains, and again in their different stages. If at this time an examination be made in the interval after a pain, and the posterior fontanelle be still found directed towards the left and backwards, it frequently happens in the examination during the next pain, and certainly when it reaches its acme, that we find this fontanelle completely turned towards the right, that is, turned towards the ascending ramus of the right ischium, and with the gradual subsidence of the pain it again returns to its former position. If these examinations be repeated during, and in the intervals of, the pains, or if the finger be kept in contact with the head, the posterior fontanelle, which in the absence of a pain is directed entirely towards the right, will be found to turn on the accession of one forwards to the right obturator foramen, and with the subsidence of the pain to retire again somewhat backwards, or in other words, the head turns with its straight diameter from the transverse into the left oblique diameter of the cavity of the pelvis, and again gradually retires into the former, until, finally, towards the end of the third stage of labour it remains in the oblique position, *viz.*, with the posterior fontanelle turned towards the right obturator foramen.

It must not be here left unnoticed, that this rotatory screw-like advance of the head usually takes place far more quickly than the motion, otherwise of the same kind, which follows in the recession of the head as the pain goes off; and that the head, when the pain has already ceased, still continues to retire to its former position and direction. In the interval between two pains, immediately before the commencement of the next, the head is commonly found at the greatest distance from the place which it

occupied in the height of the preceding pain. This period, however, manifestly requires exact and continuous observation.

The repeated rotations or movements of the head forwards and backwards, as just described, and, as it were, effected by way of trial, are perceived, often for a considerable time, in a labour whose stages are duly protracted throughout, and, indeed, as well in those who have borne a number of children as in primiparæ, but out of sight, most strikingly in the latter.

As the head approaches nearer and nearer to the outlet of the pelvis, it is consequently the posterior superior quarter of the left parietal bone, which, in the pelvic cavity, is opposed to the arch of the pubes, and, therefore, the point of the finger introduced under and nearly perpendicular to this arch, touches the left parietal bone almost in the centre of its posterior superior quarter; and this is precisely the part which, in the further advance of the head between the labia, first becomes visible, with which it engages in the outlet, and on which the cranial swelling forms. And, as in the engagement and delivery of the head in the instances of the first cranial position, the posterior fontanelle usually remains directed towards the *left*, so, in this case, it is mostly directed to the *right*. In the one as in the other instance, the head retains in its further progress through the external passages, an oblique position; and when it has cleared the outlet of the pelvis, the face therefore is found turned towards the inner and under side of the left thigh of the mother.

In the second cranial position the primary swelling also sometimes forms under the peculiar circumstances already described in section 7. And also further, as the cranial swelling which arises on the head, previous to and during its engagement, is limited in the first cranial position for the most part to the posterior superior quarter of the right parietal bone, so in this instance, it is on the corresponding place of the left; and likewise, as in labour with the former cranial position, the right half of the cranium is the more elevated, the right parietal bone stands higher than the left, so, in this case it is the reverse. This variety in the configuration of the head is not to be mistaken at the first glance, and both those appearances, the form and situation of the cranial swelling are so striking and remarkable, that even if one had not examined during labour, he would mostly be in a position to judge by them, whether the head had presented in the first or the second position, supposing that the progress of the labour was natural, that is to say, sufficiently slow.



The shoulders place themselves in the second position in an oblique direction at the outlet of the pelvis, and advance in this position into and through it; the left shoulder, however, which is directed forwards and to the left, is first expelled, and the right, which lies in the contrary direction, together with the rest of the child's body, follows more or less quickly.

The similarity in the progress of labour in the second cranial position to that in the first, in reference to the first, second, and third stages, apart from the reversed direction of the head, allows of its description being made shorter, and also since reference may be made to the sketch previously given in detail.

Labours in the second cranial position, and when the entire usual relations of their mechanism are throughout natural, are accomplished without greater difficulty than in the second; and whether the head is placed in the most common or first position, or in the somewhat less frequent or second, it has not the least influence on either the mother or child; even when in this position of the head there is a want of more powerful pains and greater exertions on the part of the mother, or some more favourable circumstances in reference to the size of the fœtal head, or the roominess of the pelvis, &c., in order that the labour should terminate in a like period.

#### SECTION X.—APPENDIX.

*Concerning the frequency of the two Cranial Positions, the manner in which the progress of labour in these positions is usually described, the reasons why they are frequently mistaken, and the difficulties of their diagnosis.*—We cannot forbear adding in this place some inferences from the foregoing account of the mechanism of cranial presentations, both on account of perspicuity and the connexion of the subject, although, perhaps, partly because of its title, it should be referred to the second part of this work. They relate to the frequency of the cranial position cited by us, as the *second*, but by authors usually as the *third*; to the manner in which the progress of labour is usually described, to the examination of the reasons why they are so very frequently mistaken, and to the difficulties of their diagnosis, &c.

After that species of cranial position described in this work as the first, and also cited by authors as such, should, as has been almost generally assumed until the present day, that position of the head be next in point of frequency, where the straight diameter of the head corresponds to the left oblique diameter of the inlet of the

pelvis, and the posterior fontanelle is turned towards the region of the right acetabulum, and which is termed the *second* position. Less frequent than these two positions should be those termed by most recent German writers the *third* and *fourth* positions of the head or cranium, namely, in which the head presents at the time of labour otherwise in a similar position to the two former, with the exception that the direction of the fontanelles is reversed, the anterior fontanelle being in the first case turned towards the left, and in the other towards the right acetabulum. The two latter are reckoned by many authors as irregular positions.

With regard to the prevailing opinions of the greater or less frequency of the presentation of these various species of the position of the cranium, I shall limit myself to only a few quotations. Froriep, in his much read manual of midwifery, gives no definite proportion; he nevertheless assumes that the *third* is less frequent than the *second* position. Some have given a definite proportion to the frequency of each. Baudelocque, for example, believed at an early period, that in reference to its frequency, the *first* position was in proportion to that of the *second* as seven or eight to one, and to the *third* and *fourth*, as eighty or even one hundred to one. But subsequently he found this proportion was not correct, and according to an abstract of a very great number of cases of labour, published at a later period, he fixed the frequency of the *second* cranial position to the *first* as one to four and three-fourths; and, on the other hand, that of the *third* to the *first* as 1 to 346. According to the collected observations of Lobstein, made during eleven years in the lying-in hospital of Strasburg, the number of cases of presentation in the *second* cranial position, were in proportion to those of the *first* as 1 to  $2\frac{2}{7}$ . It is reported in a statement of the cases which occurred in the lying-in-hospital at Würzburg, from 1812 to 1813, that in 273, or rather (after abstracting four undetermined positions of the head) in 269 instances of its presentation, which were terminated by the efforts of nature alone, the head was placed 213 times in the *first* position; but in the remaining instances, 56 times in the *second*, which gives the proportion of the latter to the former nearly as 1 to 4. Carus states that he has observed in 100 labours, the occiput 79 times in the *first*, and 21 times in the *second* position, while, according to his idea, the *third* and *fourth* positions belong to the rarer species of labour, since in from 100 to 200 cases only one or two presented these positions.

Madame Lachapelle believes that the *second* cranial position is

next in point of frequency to the *first*; that on the other hand, the *third* is rare, and the *fourth* rarest of all. According to her the head ought to present at labour, in 14,677 cases of the cranial presentations 11,634 times in the *first* position, 2853 times in the *second*, 112 times in the *third*, and 78 times in the *fourth*, &c.

This does not in all respects agree with the observations I have made on this point for a long series of years. According to numerous and most carefully and attentively pursued observations, the next of all the species of cranial presentations, by far the most frequent after the *first*, is the *third* parietal or cranial position, and the *second*, which is held to be so frequent, on the contrary, the rarest. The results of these observations are given above, (Sect. 9) from which it appears that in general the proportion of the *third* cranial position to the *first*, is nearly as 1 to 2. This presentation cannot therefore be compared in frequency, next to the first, with any of the other cranial positions, among which the facial positions present the most frequently, more rarely the *fourth*, and rarest of all, the *second* cranial position.

But now-a-days the former erroneous proportion in reference to the frequency of the various cranial positions is still given by many writers, by many indeed, scarcely from conviction, but for reasons far worse than an excusable error. It is also generally asserted that in the *third* and *fourth* species of presentation of the head or cranium, the occiput, as the head advances into the cavity of the pelvis, turns invariably into the hollow of the sacrum, and that the head engages in and passes through the outlet with the face forwards and upwards; that the progress of such labours is always more difficult than the first position; and that they also require more, and as some imagine, unusually favourable proportions between the head and pelvis, in order to be completed without danger or injury by the natural powers,\* but that nevertheless in some instances, the occiput sometimes turns forwards instead of backwards, and then is expelled through the outlet in the usual manner, alas! as Baudelocque remarks, too rarely for the good of the mother and child.

All this agrees as little with the observations I have made on the subject as the opinions of the relative frequency of the various positions of the head. According to what I have already stated, (Sect. 9) in regard to the progress of labour in the *second* cranial

\* This notion passed from the works of Solaryes and Baudelocque into the German manuals. Compare, for example, Froriep. 4 ed. p., 195; Joerg, 1 ed. p. 84, 3 ed. p. 146; Wiedmann, p. 73, &c.

position, all of which is the result of a long continued, faithful observation of nature, the course which is still pretty generally held to be the rule is the exception, *and exactly that which is held to be a deviation from it, the rule.*

What now may be the reason that the frequent presentation in the *third* position, and the subsequent change in general to the *second*, has been so long overlooked? The reason, I believe, must be sought in the coincidence of various circumstances.

In the first place, the diagnosis of the different positions of the head lies, in general, under not a few obstacles, particularly the sufficiently early recognition of the third position. The greatest masters in this department of medicine, a Lamotte, Puzos, Roederer, Berger, Saxtorph, Solaryes, and others, have bestowed no attention on this part of the subject; and the history of the science shows abundantly and distinctly, that even those in the first ranks of the profession had not overcome these difficulties. Among these we count, besides the circumstances already (Sect. 3) noticed, particularly in the *third* position, the easy confounding of the frontal suture, and the left limb of the coronal, with the lambdoidal suture. This, and also the circumstance that the left frontal bone being often pushed underneath or pressed inwards, resembles in feel the occipital bone, has led even the expert examiner, in the higher positions of the head, to sometimes mistake the third for the first position. So long as only that portion of the sagittal suture extending between its two ends can be reached or traced by the examining finger, it naturally cannot, by itself, determine the matter, because in both the positions of the head referred to, it is situated parallel to the right oblique diameter of the pelvis; it cannot even be properly distinguished until the point of the finger reaches one of the superior angles of the presenting parietal bone. The two superior angles of this bone may be easily confounded by the touch with one another; more easily indeed by those who have already attended a number of labours, but who are not acquainted with the frequency of the third position, and its regular progress, (Sect. 9) than by beginners. It is indispensably necessary to the certainty of the diagnosis that the point of the finger should pass over the one or the other fontanelle; and if the examination be made with the index finger of the right hand, the object is sometimes attained in reference to the fontanelle, directed forwards and to the left only by means of the ulnar side of the first joint of that finger.

Another circumstance which may render the diagnosis of this

position of the head difficult, is delay in the discharge of the waters ; for one may be very easily deceived, if, with a roomy pelvis, lively pains, and a pretty quick labour, the membranes do not burst, and the waters escape, until the head be rather far advanced into the pelvic cavity. In this case it may happen that the head which, while the waters were undischarged, was at first detected in the *third* position, is now met with, immediately after the escape of the waters, in the transverse, or even in the left, oblique diameter. In general there is further to be reckoned here, too late examination, namely, at a period when the original position has already changed into another ; and examinations not perseveringly enough pursued, and at too great intervals. Also the circumstance, that where in the actual existence of the *third* position too small a space of the sagittal suture is traced with the point of the finger, and consequently the obliquity of its direction is not sufficiently apparent, particularly in the case where the occiput is deeper than usual ; and thus the cranial position, just mentioned, is easily mistaken for a transverse one ; and by the inexperienced, or by those surrounded by prejudices (as I have seen), even for the *second* cranial position. If, however, a larger space of the sagittal suture is traced from the posterior backwards to the anterior fontanelle, it is perceived most clearly, that its direction is not alone from left to right, but also backwards.

Ignorance of the manner in which the head in general advances through the pelvis, when it presents during labour in the *third* position, may also give rise to error. I am convinced that in many instances where this position of the head has been actually recognised in the second and at the commencement of the third stage of labour, but in consequence of the occiput not passing over the perineum (which would have been in due form, but not according to the general process) but under the arch of the pubes, the result of the former examination has been regarded as erroneous. Those naturally will fall more readily into this mistake, who are not perfectly certain of the results of examination in the earlier stages of labour ; who have not examined with due care, or long enough, or at too great intervals, and consequently cannot, unhesitatingly, rely even on their examinations ; or who have neglected an exploration at the commencement of labour, or who (as it was stated to me in conversation by a celebrated obstetric teacher) regard the examination at so early a period, as an offence against the laws of humanity. But what especially disposes one to fall into this error, is the des-

cription of the mechanism of labour in the *third* cranial position, as found in most manuals and compendia of midwifery, or derived from the crude instructions of celebrated teachers.

Consequently it very naturally happens that one is far more inclined to mistrust his own examination than the dicta of masters in the art, and what is continually brought forward as new on the subject in numberless works, in which there is nothing of this rotation; or if so, it is very seldom, and an exception to the general rule. In this way errors are handed down from generation to generation, and the inexperienced tyro always feels what the master felt before him.

There are still some other circumstances which render a better view of the commencement difficult, for example, want of dexterity in examining, an obstinate adherence to certain long cherished theories, and a deep-rooted but convenient determination to see things in a certain way, and not otherwise. Further, one may have for years propounded his views in writings, through which they have become known, and now fears to acknowledge that one may acquire a still better view of the subject; and because others will have to be thanked for it and not himself, he endeavours to contradict it, &c.

The influence, particularly which a preconceived and long-cherished opinion is capable of exerting, even on the best minds, can scarcely be more strikingly exemplified than in things which come under the sphere of obstetric examination. One examines and finds—what previously he is already sure of finding! Yet there are circumstances which are nevertheless far greater obstacles to the introduction of a correct view of what takes place in nature, or the rectifying of a faulty idea. Truth, which, as in this case, can only be ascertained by means of an impartial and careful observation, is most difficult in finding an inlet with those who, imagining themselves perfectly right, always and exclusively keep before their eyes a self-created ideal of the mechanism of natural labour, which continually rules over and directs nature in every point, where she deviates from the model obtruded on her,—who are always prepared and ever ready to interfere with the hand or instruments, where they see her overstepping the limits which they idly and presumptuously have chalked out as “natural.” Such people delude themselves and make it impossible to know or estimate nature aright.

When men, acknowledgedly of the greatest experience, of whom, instead of many, I will only name Baudelocque, assert that the *second cranial* position occurs so frequently, and the *third*, on the contrary, so very rarely, I by no means deny that they actually

found the head in the second position, yet, my firm conviction is, that these numerous cases had been *originally* of the so-named *third* position, which, in the further progress of the labour, were changed into the *second*, but that the original position had been overlooked, the direction of the head discovered too late, or that it had been too long in being examined, &c.\*

Those who feel themselves inclined to be angry with this assertion, should consider how difficult the greatest masters have reported the diagnosis of the cranial positions to be. When a Lamotte says: "*Quelque expérience qu' un Chirurgien ait dans la pratique des accouchemens, il ne trouvera point d'occasion plus dangereuse, ni ou il puisse plus facilement se tromper, que dans les diverses situations où l'enfant presente la tête.*" When that most skilful and exact observer Roederer, remarks of the position of the head with the face turned towards the pubis:—" *Nequit penitus cognosci, antequam caput est natum.*" When Solaryes observes:—" *Profiteri non dubitabimus casus adesse, in quibus de capitis positione certum pronuntiari difficillimum sit obstetricante, etiam in pertractatione excercitatissimo;*" and where a Smellie freely confesses he has been wrong, who in the world would indeed assert that he could not be mistaken, or that the belief that others have also erred, is an offence against good taste?

If the frequency of the *third* cranial position be taken into consideration, and that labours in this position of the head are, under similar circumstances terminated without greater difficulty, and even as fortunately in every respect, by the energies of nature, as those where the head presents in labour in the first position, it is therefore more natural in the arrangement of the cranial positions, to make

\* El. V. Siebold, asserts that labours in the *second* position of the head sometimes occur more frequently than those in the *third*, and that in the Institution over which he presides, for *two* months the labours were almost throughout all in the *second*. Hence the statements made by this learned person, in reference to the periodical frequency of this position, perfectly agree with the following observations in regard to the *third* position. Sometimes this position presented very frequently in relation to the *first*, sometimes they alternated, and more frequently the greater number of the *third* position passed into the *first*. Thus, for example, I observed in 17 labours, which occurred in the Heidelberg Lying-in Institution, in September, 1833, 10 in the *third* and only 5 in the *first* position; in November, 1834, 10 in the *third* and 4 in the *first*, &c. On the other hand there were in December, 1834, in 13 labours, 10 in the *first* and only 1 in the *third* cranial position; in July, 1833, in 27 labours, 21 in the *first* and only 6 in the *third* position. Other months gave an equal number of both positions, &c.

the third immediately follow the first position, since the *second* is the rarest of all the original positions.

SECTION 11.—*Of some Deviations from the Regular Progress of Labour in the usual and unusual Cranial Positions.*—The manner in which the foetus passes in cranial presentations through the pelvis, as described in Sect. 6 and 7, is to be regarded as the rule, because nature by far most frequently follows it; hence, there are only two *usual* or *common* cranial positions; all the others noticed in compendia and manuals, but which only occur very seldom, are to be considered as *unusual cranial positions*, of which I shall immediately speak, but in the first place of the deviations from the rule in the usual cranial positions.

Sometimes, but very seldom, and under peculiar circumstances, which the attentive observer cannot fail in detecting, the progress of labour deviates from the general rule without otherwise having an injurious influence on the result. Thus, for example, the head in a very few instances does not make its usual rotation (Sect. 9) as the labour advances, but passes into and through the pelvis with the face directed upwards, and more or less forwards. The result of the observations now made I believe I should not here pass over, as it differs almost in every respect from the prevailing notion, and therefore state mechanism of labour briefly as follows:—

The head also in this case does not, in sinking into and engaging in the cavity of the pelvis, turn itself, as it is said to do in most of the compendia and manuals. The occiput does not turn into the hollow of the sacrum, but if the head be near its engagement in the outlet, or if a part of it be already visible between the labia, the anterior fontanelle still remains steadily directed towards the left obturator foramen, and the posterior fontanelle, which is mostly lowest, towards the right sacro-sciatic ligament.

Immediately before the disengagement of the head, the anterior fontanelle, free from all swelling of the cranial integuments over it, may be felt at the inner edge of the descending ramus of the left os pubis. When the head is about to become engaged in the os externum, it is mostly the superior and anterior part of the left parietal bone, together with a portion of the superior part of the left frontal bone, which are to be felt opposite to or behind the summit of the arch of the pubes, or which the finger comes in contact with when introduced in a direction almost perpendicular to the symphysis



pubis. In passing through the os externum, the anterior part of the left frontal bone opposes the flat portion of its vault to the deeply excavated arch of the pubes, and there is often observed on this region a red spot caused by the pressure. The face is also observed, when the head is born, to turn towards the inner and upper side of the left thigh of the mother.

If the head remains for a long time engaged in the outlet before it comes to be disengaged, and if it also experiences for a considerable period, the counter pressure which the os externum closely pressed to it powerfully exerts, the principal seat of the cranial swelling which the child brings with it into the world, is the upper and anterior quarter of the left parietal bone, and sometimes also in part the left frontal bone. This region of the cranium leads the way throughout the whole progress of the head through the cavity of the pelvis, as also in its engagement and disengagement.

In the expulsion of the head through the outlet of the pelvis, its transverse diameter (from one parietal protuberance to the other) never coincides with the transverse diameter of the lower aperture, but throughout advances in an oblique position, the shoulders also then present in an oblique direction at the outlet of the pelvis, the left behind the descending ramus of the right os pubis, and the right turned towards the left sacro-sciatic ligament, and after the former first advances, the latter then follows, and then the rest of the child's body.

The unusual or more infrequent progress of labour in the *second* cranial position just described (but which however is certainly regarded as not less natural, and corresponds with the peculiar circumstances previously in existence) is perceived, although not exclusively, remarkably more frequently in primiparæ than others.

In 1244 noted and closely observed cases of the *second* cranial position, the head did not make the usual rotation, but came with the face upwards, and more or less forwards, both in engaging in and passing through the outlet; nevertheless, there was always found some particular circumstance which clearly explained this deviation from the general rule, and which we cannot omit to mention in this place. In some cases the inlet and outlet of the pelvis were obviously unusually roomy, in others it was only the outlet which was wider than usual; or the cranial bones are found to be remarkably soft, here and there flexible, and presenting the parchment or tinsel-like condition previously noticed, false sutures, large fontanelles, &c.; at other times, if the pelvis was found to be of the usual dimensions, the children were premature or small—for

example, twins; further, this deviation from the general rule was observed more frequently in those who had borne a number of children than in primiparæ, especially if in the former the soft parts were very elastic, or there existed an old unheeded rupture of the perineum, and when the labour ran its course very rapidly in the third and fourth stages, &c.

In every other instance the rotation of the head took place, and I witnessed the same undisturbed progress and successful termination of labour in primiparæ as in those who had already many times borne children; in the young as well as in those of more advanced years; in cases where there was a large quantity of liquor amnii, and where there was a small; where there was a pendulous abdomen, and where there was not; where the pains were strong and where they were weak; in rapid and in slow labours; in cases with and without twisting of the umbilical cord round some part of the child's body; with a greater or less development of the foetal head; with the accouchée lying on her back, or on her side, &c.

In these and similar circumstances, when, for example, the pains follow each other unusually quick, when the expulsive powers are all together, or in some one stage of labour, too strong; when the pelvis is generally too wide, or of unequal width; more roomy in the one or the other direction, or less so than usual, &c.; other deviations may be sometimes found, hence it occurs that the head as well in the *first* as in the *second* cranial presentation assumes a direct position in the cavity of the pelvis, or exhibits some one of the various usual positions—that the shoulders are forced with their greatest breadth in the transverse diameter through the outlet of the pelvis; and under such circumstances, there is also after labour sometimes no trace of the cranial swelling to be discovered. But in general it is easily conceivable how, in the existence of such unusual relations, nature does not require to have recourse to that rotation and other definite motions, how she can forego the mechanical advantage, and, as it were, despise the artifices which she exerts in order to attain her objects in ordinary circumstances, particularly where there is a rather scanty measure of space. She breaks the rule by which she is at other times bound, and thus the otherwise clear idea of the mechanism of labour becomes confused, and appears as it were defaced.

SECTION 12.—The second and fourth cranial positions, we observe, are given and described in our compendia and manuals as *unusual*.

I have already spoken of the supposed frequency of the *second* position. It is the most infrequent of all the positions of the head, so infrequent indeed that in a thousand labours it scarcely occurs more than once or twice.

The *fourth* position occurs very rarely where the head presents in labour with the right parietal bone foremost, and the anterior fontanelle turned towards the right and a little forwards. I only observed it seven times in 3677 labours. In this case the rotation in general takes place, as in the second cranial position, but in the opposite direction, viz., the posterior fontanelle turns from behind and to the left, in the first place, altogether to the left, and then forwards and to the left, and the head engages in the outlet exactly in the same way as it does in the first cranial position. In the circumstances noticed in the previous section, it may however even happen here, that the head is forced through the pelvic outlet with the face upwards.

Although very eminent obstetricians assert, that according to their experience, the species of spontaneous correction in the position of the head, where the occiput directed to the right sacro-iliac synchondrosis turns to the right side, and then forwards and to the right, occurs far seldomer, than that where the occiput directed backwards and to the left turns to the left side, and then forwards and to the left; I perceive nothing in this assertion but a mischievous delusion, and am fully convinced, though it looks so plausible, that the theory of the influence of the rectum in promoting the rotation in the fourth position, and on the contrary, rendering that of the third more difficult, is purely the result of imagination—that here the theory is as false as the alleged fact for the explanation of which it was invented. If one thinks seriously on these things, he cannot really abstain from expressing a wish, that the authors of compendia, &c. instead of filling whole paragraphs, pages, and leaves with matter precisely opposite to that which obtains in nature, would rather devote themselves to the subject, and abandoning the writing desk, observe without prejudice, how nature conducts the process, opportunities enough of which daily occur, and thus endeavour to unravel the mysteries of the mechanism of labour.

Finally, as to the transverse positions of the head, which some have very recently again sought to enumerate among the usual positions, they depend, when the head retains its transverse position through the inlet into the cavity of the pelvis, for the most part on some faulty state or unusual condition of the pelvis. But that the

head sometimes, yet only in special and unusual circumstances, passes through the inlet, the cavity, and outlet of the pelvis exactly in a transverse position, I also have had occasion to observe, but I by no means on that account consider myself entitled to reckon it as a regular and usual cranial position, and only look upon it as a deviation from the general rule.

#### OF THE MECHANISM OF LABOUR IN PRESENTATION OF THE FACE.

SECTION 13.—The *foetus* usually presents in two ways with the face in labour, viz., either

1. *With the right half of the face as the lowest presenting part, the forehead being directed towards the left; or,*

2. *With the left half of the face foremost, the forehead being directed towards the right.*

SECTION 14.—According to my experience of the two facial presentations noticed, the first is (the forehead being towards the left,) the most frequent, wherefore I have named it the *first*, and the other the *second* facial presentation, which also in this point differs from the view almost universally current.

In 39 cases of presentation of the face, which occurred in our hospital here, from 1819 to 1847, the first was observed 22 times, and the second 17.

SECTION 15.—I willingly leave it to those who imagine they can explain everything, to find out the reason why the *foetus* sometimes presents itself during labour with the face, instead of, as usual, with the cranium. But from what is usually adduced in regard to the cause of the origin of this position of the cranium, the subject appears to me to be by no means cleared up or exhausted; and I only in this place further remark, that various original facial positions occur, of which every one may convince himself who has considerable opportunities of examining women in the latter months of pregnancy, although moreover this could not be proved by means of dissection.

SECTION 16.—The *diagnosis* of facial positions, in many instances very easy, lies in others often under great difficulties.

When the os uteri is already somewhat dilated, the membranes not tense, or the liquor amnii has only shortly before escaped, and if the head be not very high, the diagnosis (apart from the general signs of presentation of the cranium) of the presentation will be facilitated by means of the peculiar form of the individual parts of the face, viz., by means of the forehead with its suture, the eyes, with their surrounding bony ridge, the nose (the ridge of the nose, the nostrils, and their septum,) the mouth (edges of the alveoli,

tongue) &c. The most certain sign to recognise not only the region of the face, but also its direction in relation to the parietes of the pelvis, and the nature of the facial position, is the nose. On the other hand the diagnosis is more or less difficult, when the liquor amnii is still undischarged, the membranes tense, when the head stands high, is very moveable, &c., and where, for example, the forehead only can be felt, and it is therefore imagined that the presentation is a cranial one. After the escape of the liquor amnii, the head may stand high or deep, but it is especially the swelling of the cranial integuments which renders the diagnosis difficult, and gives rise to the strangest errors and mistakes. The cheeks when very much swollen, have, for example, been mistaken for the buttocks, what one would, classically speaking, call a *quid pro quo*; and it is well known, England's greatest obstetrician frequently confessed he confounded the mouth with the anus, to which it has some resemblance; and the swollen eyelids may easily be confounded with the female vulva. By means of practice and attention these mistakes will usually be avoided.

To be able to distinguish by auscultation alone, a facial from a cranial presentation, in the course of pregnancy, or even first during labour, as a colleague very expert at obstetric exploration asserts, has never occurred to me, and to speak frankly, I hold it impossible to do so.

SECTION 17.—*Mechanism of Labour in the first Facial position.*  
In the first facial position the examining finger which is introduced at the commencement of labour through the os uteri, usually comes in contact with the the nose; if it then be carried along the ridge of the nose to the left, it reaches the frontal suture, to the right of the nostrils, and forwards to the right eye. The long diameter of the face is also found to be more or less parallel with the transverse diameter of the inlet of the pelvis; and its right half stands lower in the pelvis than the left.

As the head in the progress of labour advances farther into the cavity of the pelvis, it gradually turns, so that at the end of the third stage of labour, the long diameter of the face corresponds with the direction of the left oblique diameter of the pelvic cavity; consequently the chin is turned towards the right obturator foramen, and the right cheek to the vulva.

When the face begins to be engaged in the inlet, the right cheek and the right angle of the mouth first become visible between the

labia, and the chin places itself behind the descending ramus of the right os pubis. In the farther progress of the head the lower jaw advances from the right side under the arch of the pubes as far as its angle, which is opposed to it, and always with the chin steadily directed somewhat towards the right, until, finally, the head is expelled through the os externum with the greatest circumference which it presents to it, rotating on its transverse axis from below upwards and somewhat laterally, the face also turning upwards. If the head is born the face is turned upwards and towards the right side. The shoulders place themselves in an oblique direction at the outlet of the pelvis, the right upwards and to the left, the left downwards and to the right, and become engaged in and pass through the outlet as in cranial presentations which have been described.

When the head presents in labour in the first facial position, there forms, and indeed chiefly then, if the membranes burst before the os uteri is sufficiently dilated, or if the second stage of labour be slow, &c., the primary swelling of the cranial integuments on the superior part of the right half of the face; the right eye occupies almost the centre of this swelling. If the further course of the labour, and the engagement in and expulsion through the outlet of the pelvis, ensues quickly, or if, in these circumstances it be terminated by art, the swelling of the face is found on the superior half of the right side, and the rest of the face is free from it. If the first stage of the engagement of the head in the inlet be much protracted, and it remain for a long time arrested with the right cheek turned towards the os externum, and if its further engagement and expulsion ensue quickly, it is observed after birth, that the principal seat of the dark purple swelling is limited to the inferior half of the right side of the face, the region of the right cheek, and from that to the right half of the mouth, whilst its left half is entirely free therefrom; the mouth is therefore found drawn to the left side. But if the engagement and expulsion of the face as well follows the usual protracted course, then the left half of the mouth is also found to be more or less involved in the swelling.

If the mechanism of labour in the first facial position be compared with that in the first cranial, the similarity between the two is in many respects unmistakeable. As in the latter the head presents at labour with the right half of the cranium the part standing lowest in the pelvis, so in the former does the face with the right half; as in the one case, when the head is in the cavity of the pelvis it is the superior posterior quarter of the right parietal bone which is

found immediately behind the vulva, and opposed to the symphysis pubis, which the swelling of the integument forms, and with which the head engages in the outlet of the pelvis, so it is in the other, the right cheek; as in the former it is the posterior fontanelle always turned towards the left obturator foramen, which gradually moves from left to right, so in the latter, it is the chin which, always found behind the right obturator foramen, gradually moves from right to left and downwards below the arch of the pubes; and, finally, as in the former, the posterior fontanelle remains steadily directed laterally, so in the latter is the chin, only, however, to the right side, and the posterior fontanelle, in the former case, to the left.

SECTION 18.—*Mechanism of Labour in the Second Facial Presentation.* In the second facial presentation, the same state of matters is found at the commencement of labour, only that the brow is directed towards the right side of the pelvis—the direction is in every respect reversed. In the further progress of labour, in the advance of the head into the cavity of the pelvis, in the engagement and expulsion of the head and shoulders at the outlet, the rotation and position are the same as in the first facial presentation, but of course in a reverse direction; therefore a more detailed statement of the mechanism of labour in the second facial presentation is unnecessary.

When, as is frequently the case, the forehead in a facial presentation is met with originally either somewhat backwards or forwards, this in no respect alters the description of the farther advance of the head through the pelvis. The chin always turns itself in the course of labour, forwards under the arch of the pubes, that is to say, if no faulty abnormal conditions exist, for example, in respect to room, or if no external reason to change the position of the head has led to an attempt to rectify it by converting it into a cranial one, or to have recourse to artificial delivery. In an obstetric practice of more than thirty-six years, and which presented ample opportunities of observing this kind of labour, a case has never occurred to my father, if no mechanical interference became necessary, where the forehead turned forwards, and the face placed itself in the usual and opposite direction at the outlet. An immature, untimely, or decomposing foetus, may readily place itself at labour in almost every imaginable position, and it is conceivable how the mechanism is in these circumstances liable to many changes, so infrequent, and by means

mostly of easily understood, but unusual proportions, conditional deviations from the usual progress of labour, as, for example, the expulsion of the face with the forehead directed forwards to raise to the rank of a rule, as is stated in many of our compendia, is perfectly absurd, and depends either on their authors having seen too small a number of facial labours before writing them, or, among other things, such a representation owes its existence to the desire of contradiction, &c. I frankly confess that I can give no credit to any thing on the facial presentations with the forehead directed anteriorly, adduced and detailed in these writings, and demonstrated in all their relations, and the peculiar circumstances and difficulties therewith connected, (not even indeed by those who permit such cases to range under the rubric of "normal labours,") in as decided a tone, as if they would make one believe these pieces of jugglery and rope dancing were of daily occurrence, but to which nature never surrenders herself.

Labours with the face forwards, proceed in every essential particular peculiar to the otherwise natural progress of labour, in general without greater difficulty, and even terminate just as happily as in labours with a cranial presentation; and according to my observation it requires no unusual, no more favourable circumstances on the side of either mother or child, than common.\* In saying "without greater difficulty," and not "just as easy," I did so because easy labours, in the peculiar sense of the words, are in the highest degree unfrequent, and not once worthy of exception from the general rule.

SECTION 19.—*On the Mechanism of Labour in the Presentation of the Nates.* We comprehend under the common term labours with the nates forwards, those which are commonly noticed in manuals and compendia, as nates, feet, and knee presentations, and described separately in reference to their mechanism.

The relation of the head and extremities with reference to the trunk, or the positions of the fœtus, is exactly the same in labours with presentation of the pelvic extremity as in the common positions of the child. The feet, therefore, are in general originally found in the neighbourhood of the nates; in fact they are not unfrequently at the commencement of labour, closely in contact with them, and they also are forced in their original position through the pelvis with the nates, and are thus born with them. It sometimes however happens that the feet (or only one foot) are originally situated somewhat farther from the inlet of the pelvis than the nates,



and while the latter alone descend, they rise upwards, are turned upon the abdomen and breast of the child, and in the course of the labour they come together with it into the world. But the reverse of this frequently occurs, for example, the feet are placed somewhat deeper than the nates, and at the commencement are in fact alone to be felt in the os uteri, and descend in labour before the nates. In very few instances is it the knees which, in the further progress of labour, slide down before the nates, and that they should ever be alone felt in the beginning of labour, at the os uteri, is not probable.

As now, in consequence of the modifications in the position of the foetus, just described, the mechanism of labour in presentation of the pelvic extremity suffers throughout no essential changes, there is not the least need for the multiplication of position at the time of labour; and I hold it to be superfluous to set up in this presentation trifling deviations as just so many species of position, as is commonly done, and to describe the mechanism of every one of them separately.

**SECTION 20.—*Diagnosis of Pelvic Presentations; Difficulty of Diagnosis.***—The following signs assist in the diagnosis of presentation of the pelvic extremity of the foetus, which previously to the discharge of the liquor amnii, is, in general, difficult.

1. In many instances the external examination of the abdomen permits the presence of this presentation to be recognised. In emaciated women, for example, whose abdomen, already distended by former pregnancies, has retained a certain degree of softness and flaccidity, in those with thin abdominal parietes, and where the uterus only contains a moderate quantity of liquor amnii, the head can often be felt externally more or less distinctly to one or the other side; and sometimes it is the same with the shoulder, which of course forms a smaller prominence. In less happy circumstances, when, for instance, the parietes of the uterus and of the abdomen are more fleshy, the uterus much distended with liquor amnii and tense, &c., it is of course even impossible for an experienced person to avoid error, if he limits himself merely to an external examination.

2. Towards the end of pregnancy, the pelvic extremity of the foetus, surrounded by the inferior segment of the uterus, sinks somewhat lower down than the head; and in this respect the same striking difference does not of course occur between primiparæ and those who have borne more than one child in presentation of the pelvic extremity, as in presentation of the head. In primiparæ, the head is

found, towards the end of pregnancy, projecting deeply and almost immovably into the inlet of the pelvis, whilst in those frequently pregnant it is at this period still high above it, frequently indeed, so high, that it cannot be reached with the finger. The presenting nates, on the contrary, project as well in primiparæ as in those who have born a number of children less deeply into the pelvic inlet, and therefore in the beginning of labour, and even until the liquor amnii be discharged, no presenting part can be recognised. Whoever concludes from the form of the bag of membranes, which in this case should be more oval, or from the less tension of the membranes, &c., that a breech presentation exists, will frequently have occasion to be disappointed in his diagnosis, when the membranes burst.

3. After the rupture of the membranes, whereby a greater and more continuous flow of liquor amnii commonly ensues than in cranial presentations, the individual parts which form the lower end of the trunk in the foetus (the same in the position mentioned which it usually has in the uterus) may be more easily detected. There also presents the globular and fleshy-like buttocks, the cleft between them, limited at the one extremity by the coccyx, and at the other by the genital organs, whilst in the centre the round, small, contracted, or in the dead foetus, the relaxed anus is felt; then the presence of one or both feet, the proximity of the thighs with their flexure, the escape, or colouring of the examining finger with meconium, &c., also assist the diagnosis. If, on the contrary, the membranes are still entire and tense, so that only the contour of the buttocks is felt, the sacrum and coccyx are then the diagnostic signs on which the diagnosis may with certainty be based. After the discharge of the liquor amnii, may as well in consequence of the high position of the nates as when they have advanced deeper into the pelvis, the diagnosis be rendered difficult by the formation of the swelling of the integuments, while the parts have lost their peculiar form, and become undistinguishable: here then it is only the coccyx which can lead to a conclusion. Many have noticed the ischiatic tuberosities, as felt through the nates, as diagnostic signs, but I must say, that at least this does not in general hold good in the mature, well-nourished, and living foetus, in whom nothing of them can commonly be felt. It is only in an immature foetus, or one a long time already dead, where the parts have lost their plumpness and elasticity, they can with certainty be recognised.

4. Sometimes, as already noticed, in the beginning of labour, merely the feet are felt presenting, and the breech is found some-

what more remote from the os uteri. Both feet then usually present, and seldom only one. If the membranes be still entire, and the feet high, the diagnosis is more difficult. On the other hand, if the membranes are flaccid, the feet are easily detected by their form, but this is always easier after the rupture of the membranes. When the presenting part is high, a foot may be confounded with a shoulder presentation. And at times when only one foot presents, since the dorsum of the foot is always in contact with the shin, the heel stands lowest, and may be mistaken for the elbow, whilst the breech, scarcely attainable by the finger, is taken for the breast. The following serve, however, chiefly as diagnostic signs of the feet :—The toes are shorter than the fingers, their anterior edge forms nearly a straight line, in the fingers this is curved; the large toe is considerably larger and longer than the other toes, is immovable, the thumb shorter than the fingers, is moveable, and can be abducted; moreover, the fingers are commonly bent, which is not the case with the toes; further, the sole of the foot is longer and narrower than the palm of the hand, the external edge of which is convex and thin, whilst its inner edge is hollow and thick; the heel and the ankles on both sides may, because of the similarity of the latter to the two condyles of the elbow joints, be easily confounded, but a closer examination, when the finger is farther introduced, soon rectifies this error, whilst the sole of the foot sufficiently distinguishes it from the fore arm, and gliding the finger along the former the toes are reached, and along the latter the hand, &c. The determination of the direction of the child's body, viz., whether the abdomen of the child is turned towards the anterior or posterior wall of the uterus, is especially on account of two circumstances, difficult in presentation of the feet; in the first place because of the mobility of the feet when still high; and in the second, in consequence of their often lying across each other, in which case the toes of one foot are found in the vicinity of the heel of the other. With reference to the first point, experience teaches that, if only one foot presents, it commonly has its usual direction, that is, the toes correspond to the anterior surface of the child's trunk. If both the feet present and have the same direction, and the heels correspond to one and the same side, it may be still more certainly concluded that they lie in the corresponding direction of the body. As for the crossing of the feet it is ascertained to be in that way that the toes are always turned inwards, but never outwards. If it also can only be determined to which side of the fœtus one of the feet belongs, whether to the right or to the left, and if from thence one

bear the position of the fœtus in mind, he will be in a position to determine without difficulty the relative situation of the rest of the body. In the very rare instances of knee presentations, if only one knee presents, it may be confounded with that of the elbow, but it is distinguished from the elbow by its greater thickness, by its presenting to the touch two prominences and a depression between them, whilst on the more slender elbow there is found between the two prominences a pointed projection, the olecranon.

5. Finally, as respects the results of auscultation in this presentation, I have never, in auscultating during pregnancy, even had occasion to suspect the existence of a nates presentation. One would of course, *a priori*, expect the point where the stroke of the fœtal heart would be most clearly perceived more upwards than in cranial presentations; but this was not the case where I used the stethoscope, and the fœtus was even afterwards born with the nates forwards; never was the distinction in respect to position, where the double beat of the heart was heard, so striking, that from this circumstance alone, and apart from an external and internal examination, I could diagnose the presentation in question. On the other hand it may be determined by means of the hearing whether the transverse diameter of the hips be in the left or right oblique diameter of the pelvis.

SECTION 21.—*Species of Pelvic Presentation.* The fœtus presents with the pelvic extremity in labour in a greater variety of ways than with the head, but since no essential or peculiar disadvantage or associated change is produced in the mode in which the labour proceeds it will therefore be quite sufficient to point out the two following principal species:—

1. *Presentations of the pelvic extremity with the back turned forwards towards the anterior wall of the uterus; and,*

2. *Presentation of the pelvic extremity with the back posteriorly.*

In both species the back is usually found turned somewhat to the side, that is to say, the hips are more or less parallel with one or other of the oblique diameters of the inlet of the pelvis.

SECTION 22.—*Frequency of the two usual Pelvic Presentations.*—The presentation with the dorsal surface of the fœtus turned forwards occurs oftener than the other. In 163 presentations of the pelvic extremity, which occurred in the Hiedelberg lying-in hospital, between 1819 and 1837 (abstracting two undetermined positions) the back was turned forwards 121 times, and 40 backwards.

**SECTION 23.—*Mechanism of Labour, in the first principal species of Presentation of the Pelvic extremity.*** It must be first mentioned here, that in general, labours with presentation of the pelvic extremity (whether only the nates together with the feet, or the nates alone advance, or the feet precede the nates,) ensue as well according to certain rules, as those with the head foremost. But we find that nature more frequently allows herself deviations from the general rule as well, as just mentioned, in respect of the manner in which the child is placed in labour, as of its progress through the pelvis, without this having any injurious influence, if all the other conditions of a healthy labour be present. But in the majority of cases, nature evidently binds herself, as in the other positions of the child, also here, by a definite law in the progress of the foetus through the pelvis.

In every instance, the breech may originally have a perfectly transverse or oblique direction; but in its further advance into the inlet of the pelvis, it is always found in an oblique direction, the hip directed forwards standing lowest. In this oblique position, with reference to its transverse and perpendicular diameters, it is forced through the inlet, the cavity, and the outlet of the pelvis, and in general none of those rotations occur, as erroneously asserted in many manuals and compendia, as assumed of this species of labour, whilst some, compass and scull in hand, measure the extent of the bony pelvis, and then on the writing desk so extract a manniken through and turn it in the pelvis that the transverse diameter of the hips always pass in that diameter, which, according to calculation on the skeleton pelvis, they account the largest.

In the *first* chief species of this presentation it is more frequently the *left* hip which is turned either originally more or less forwards, or in its advance into the inlet of the pelvis takes this position. In this direction and with the left buttock always standing lowest, the breech advances into the cavity of the pelvis, and it is this buttock which, in the further propulsion of the breech, first becomes visible between the lips of the dilating os externum, or with which it comes to be engaged in the outlet. In the further engagement, while the left buttock, which is always directed forwards and somewhat towards the right, is pressed forwards completely under, and at the same time against, the arch of the pubes, the right buttock which lies in an opposite direction, and which has a far greater space to pass through, sweeps along the greatly extended perineum (the disengagement); and when the breech is born, the abdomen of the child is turned towards the inner and under side of the right thigh

of the mother. In this position the other parts of the body now follow; and while the chest approaches the outlet, the shoulders press in the direction of the left oblique diameter through the inlet; and while the chest is forced through the outlet, the arms and elbows lying pressed against it, come with it into the world. But whilst the shoulders advance in the direction just mentioned, the head, which during the whole process rests with the chin upon the breast, presses in the direction of the right oblique diameter into the inlet, (the forehead turned to the right sacro-iliac symphysis,) and descends in this direction into the cavity of the pelvis, or in one approaching more to that of the conjugate diameter. It therefore insinuates itself and passes through the outlet in such a way, that whilst the occiput presses itself against the os pubis, first the apex of the chin, then the rest of the face, and finally, the cranium, sweeps over the perineum, as the head rotates from below upwards, on its lateral axis.

But sometimes it is the right buttock which, in this presentation, is either originally turned forwards, or in the end assumes this direction. In this case the mechanism of labour is exactly the same as in the former, only of course, with the difference, that the surface of the child's body maintains another direction with respect to the walls of the pelvis, viz., its anterior surface, which, in the former case, is turned towards the right wall of the pelvis, is, in the latter, directed towards the left, and the head forces itself through the inlet of the pelvis in the direction of the left oblique diameter (the forehead corresponding to the left sacro-iliac symphysis).

As in cranial labours the swelling of the integuments is met with principally on the parietal bone, which in the descent of the head through the pelvis is deepest, and in the place with which it engages in the outlet, so in this case, the frequently livid-looking swelling shews itself on the part which, directed forwards, is in the progress of the nates deepest in the pelvis, and with which they have come through the outlet of the pelvis.

**SECTION 24.—*Mechanism of Labour in the Second Principal Presentation of the Pelvic Extremity.***—In the second chief species the anterior surface of the child's body is turned towards the abdominal parietes of the mother, and it is mostly also the *left* buttock which is either originally directed forwards, or which nevertheless assumes this direction in the further progress of labour, during the descent of the nates into the inlet. The breech preserves this oblique direction, whilst, as labour advances, it descends into the cavity of the

pelvis, and as well also in passing into and through the outlet. If the breech is born, either immediately or in the further advance of the rest of the trunk, the anterior surface of the child's body (which until now looked upwards and to the right) turns to the right and downwards or backwards. The head then presses in the same way through the inlet, the cavity, and the outlet of the pelvis, as has been described in the first chief position of the pelvic extremity.

It also not unfrequently happens that in the position in question the *right* buttock is turned either originally forwards or assumes that direction. The mechanism of labour is then the same as in the former case, only that the anterior surface of the child is directed forwards and to the left. The rotation also ensues, as in the former instance, either immediately after the expulsion of the breech or in the further advance of the trunk, with the difference, that here the anterior surface of the child turns to the left and downwards, and also in the passage of the head through the inlet of the pelvis the brow passes downwards in front of the left sacro-iliac symphysis.

Sometimes, and particularly when the child is small, premature, a twin, &c., it occurs in the second chief species of breech presentation, that the trunk, which, with the abdominal surface directed forwards and to the right, or forwards and to the left, is born nearly to the shoulders, is then, often indeed during a single pain, by which it is completely expelled, turned with its anterior surface from the side entirely forwards, and then to the opposite side; so that, for example, the anterior surface of the child, which, previous to the pain, was directed forwards and to the right, is turned immediately afterwards to the left and backwards.

In general the same kind of deviations also present themselves in nates presentations, as in those observed in the mechanism of the cranial positions, and which have already been noticed (Sect. 11), and these must only be viewed as such. In unusually large pelves, or with a small, premature, or dead fœtus, we therefore see, for example, that the breech is forced downwards in a straight or exactly transverse direction, and so on.

Sometimes, although not frequently, it happens also in breech presentations, that the head does not lie with the chin on the breast, but the occiput, as in cranial presentations, is pressed against the nape of the neck. The descent of the trunk through the pelvis then takes place always in accordance with the position of the breech, and in the manner already described as far as the head, which

advances with the occiput pressed against the nape of the neck forwards, and the vertex turned to one or other of the iliac bones. In the inlet of the pelvis, and its passage through it, and in its further advance into the pelvic cavity, the vertex gradually rotates itself more or less backwards, so that when the trunk is born, the arch of the cranium is found turned to the hollow of the sacrum and coccyx, and the under surface of the lower jaw to the posterior surface of the symphysis pubis. But the engagement of the head in, and its expulsion through, the pelvis ensues, so, that while the lower jaw presses with its under surface against the os pubis, the occipital protuberance first, and then the vertex and the forehead, and finally, the chin, sweeps over the perineum.

SECTION 25.—The mechanism of labour, as formerly remarked, suffers no essential change in instances of pelvic presentation where the feet have come down before the nates. It is only to be remarked, that the feet in their advance through the pelvis often change their direction, and first maintain a definite one, when the nates are pressed into the inlet.

As in labour with the feet foremost the trunk offers of course less resistance, than the cases where they pass together with the breech through the pelvis, thus increasing the circumference of the presenting parts, so is it easy to comprehend why, in this variety of presentation of the pelvic extremity, the trunk passes in general not so slowly but rather more quickly, than in nates labours. It is still further to be remarked then, when the membranes are ruptured, and the feet present, the liquor amnii usually flows away in greater quantity and more continuously than in labours with the breech presenting. The reason of this is easily understood: the lower segment of the uterus can apply itself less closely round the smaller circumference of the presenting feet, than is the case in presentations of the head or nates. A common result of this more rapid escape of the liquor amnii in greater quantity is, that the pains subside for a somewhat longer time than usual, without this passing inactivity of the uterus, otherwise exercising an injurious influence on labour.

This is the usual course of labour in presentations of the pelvic extremity, when the fœtus, the genital passages, and the expelling powers are in a proper state, and when nature is not injured and thwarted in her business of expelling the fœtus by any external cause, such for example, as by means of pulling on the child. turning, endeavouring to rectify its position, &c.



Labours with the pelvic extremities forwards are terminated in general in the time limited to the regular course of labour, by the powers of nature alone, without danger, and even throughout without greater difficulty for the mother, very often with less than in labours with presentation of the head. Women who have borne children with the head foremost, and others afterwards with the lower extremity of the trunk, certainly are mostly of this opinion.

FINIS.

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